ماجستير تناسليه (7)

Erectile dysfunction

د/هانى ابوالوفا

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د. مسلم
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Medical Causes of ED (80)

(حاجة مهمة) → Drug induced ED

Systemic diseases

- CVS
  - HTN
  - PVD
  - Coronary Art. dis.
  - " bypass surgery
- Resp.
  - sleep Apnea.
  - COPD
  - Heavy snoring
- Renal → RF
- Hepatic → LCF
- Metabolic
  - Hemochromatosis.
  - Amyloidosis.
- DM (Most common).

Drugs (Drug induced ED)

- Therapeutic → See below
- Recreational → See below

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1. CVS (HTN, PVD, CAD, C. bypass) → Aggrevating Factors
   - Smoking.
   - Aging.
   - DM.
   - Drugs.
   - Hypercholesterolemia.

Treatment

1. General Measures
   - Correction of aggrevating factors
   - Cooperation bet Andrologist / Cardiologist as regard
     - pts. life style
     - [illegible]

- Viagra
- ICI → Papav α (C.I) (...), PGE₁, Phenylepherine.
- Implant → # → Posth. valve, Artif. system

2. Viagra → C.I. in patients ē Therapy for coronary Ht dse → cause fetal hypotension

(81)

(3) ICI:

- Papaverine → better avoided d.t its High Systemic absorpt → ↑
  - Hypotension
  - Vasovagal reflex (sp. if venogen. Imp.)

- Prostaglandin E_1 (prostin VR):
  - more safe when used in small doses (5μl) ∴ occlusion of Penile base To avoid Systemic pass.
  - If There is prolonged Erection or priapism → Vasoconstrictors are Risky
    - ↓
    - α agonist ← phenylepherine (least Cardiogenic effect)
    - Dopamine HCL

(4) Penile prosthesis → Avoid it in pts. c < artificial valves or ant. Prosthesis
(d.t risk of Hematogenous inf. postoperatively.

Sexual intercourse → prefere female superior position

CV dis. < No Papaverine
small dose PG
if Need Vasoconstrictor → phenylepherine.
If take nitrate # Viagra.

2 Respiratory diseases: ← Apnea, COPD, Snoring

. Sleep Apnea & Heavy Snoring → Arterial Hypoxia (↓ O2)
& Hypercapnea → pulm. & systemic HTN.

↓

clear Associate bet.
ED & Sleep Apnea

. COPD → ED in ≃ 30%

3 Hepatic dis:

. Chr. liver dis. ass. ē ED in 50% of cases but incid. is ↑↑ to ≃ 70% in cases of Alcholic Cirrhosis.

. Mechanism:

. ↑PRL (prolactin)
. ↑ SHBG
. ↑ Estrogen → -- LH → ↓ T.
. Alcholic liver toxicity → Toxic effect on the axis (HPTA)

Q. ## → . PGE1 → most safe.
. Papaverine → # (hepatic S.E).

c/p - ↓ desire
- Gynecomastia
- E.D

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[3] Renal diseases:

. RF is ass. ē
- 50% ED.
- ↓ desire.
- Infertility.

. **Mechanism:**

Endocrinal (AXIS)

↑ PR d.t
- ↑ productⁿ
- ↓ clearance
- Drugs
  - Cimetidine
  - Aldomet
  - Digoxin

↓ FSH & LH

↓ Testost.

Vascular

(1) Arterial occlusion d.t Accelerated Asthenosclerosis

or

(2) Veno-occlusive DYSF.

(arteriogenic or Venogenic).

Neurological

↓

Neuropathy (Somatic & Sensory Neuropathy

Others
- . Anemia
- . Zinc dof.
- . ↑ Parathormone
- . Diabetes.
- . Psychic stress
- . Anti HTN

Treatment

(1) Medical
- Androgen Replacement.
- Zinc supplementatⁿ.
- PRL Inhibitory drugs
- Erythropoietin.

Viagra +CI

(2) ICI
- . Effective
- . High dose ē arterial dis
- Resistant in Venogenic dis.

(3) Penile Prosthesis: Best if ED persist after Renal Transplantatⁿ.

(4) Renal Transplantatⁿ: Most efficient.
restore Erection in ≃ 80%
. persistent ED after Transplant. is d.t ligatⁿ of Int. iliac during Transplant To be used For Anastmosis.

[4] Metabolic

(i). Hemochromatosis:

. Accumulatⁿ of Fe in Tissues
- Pituit.
- Testes

D.M

(ii) Amyloidosis:

Heredofamilial Type may involve The autonomic system
→ Neurogenic ED

↓

No specific ttt

(Cause of death is RF).

Endocrinal ED

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1. Hypothalamic disorders
2. pituitary disorders
3. Thyroid
4. Pancreatic → DM ✓
5. Adrenal
6. Testicular

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1. Hypothalamic disorders → Hypogonadotropic Hypogonadism
↓ GnRH, LH → ↓ testosterone → desire ↓

2. Pituitary Causes :

→ Hypogonadotropic Hypogonadism (↓ GnRH)

→ Hyperprolactinemia
- -- GnRH → ↓ T.
- Mech. < -- 5α reductase
- direct effect on Testes. (±)

Clinically ED ass. with :
- ↓ libido ✓
- Gynecomastia ✓

- Causes → Sec infertility

- NB

↑ PRL
=
↓ Libido
Gynecom.

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3 Thyroid disorders:

Hypothyroidism

↓ T_3, T_4 → ↑TRH → ↑ PRL.

Hyperthyroidism

- Mech. ↑SHBG → ↓Free T.
  ↑ Estrogen (d.t ↑ aromatization of Test.) → ↑ PRL

So
- ED
- ↓ libido
- Gynecomastia.

NB Hyperthyroidism & Androgen Resistance Synd.

2 Endocrinal causes of ED that's not Ass. with ↓ Test. This can be Explained By ① Hyperthyroidism: → only Free T is ↓↓.

② AR S: → receptor Resistance. (↑ T. level)

4 Pancreatic Causes → Diabetic Impotence

- Most Commonest Endocrinological cause of ED.
- DM ↑ED 3 times risk > NL
- Diabetic at 30 Y. → 15% ED
  60 Y. → 50% ED

Risk groups: ① old age
② long duration
③ Alcohol intake
④ Neuropathy
⑤ Retinopathy
⑥ Intermittent Claudication

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CIP (Types):

Classical diabetic ED

- NL desire & Hormones.
- Retrograde ejac. ±
- Noct. Erect⁻ : ± Abnl despite of NL Sexual Erect⁻.
- Sexual Erection: gradual ↓ Rigidity followed by ↓ Freq. of Noct. Erect⁻.
- Psychogenic stress (Performance Anxiety).

Convert it From Partial → Complete;
(Organic ED → Psch. ED)

Reversible in 8.5%

Atypical (Acute) diabetic ED

- ass. with Poor Control of (Acute) Severe Symptoms
  - Hunger pain
  - Thirst
  - Wt loss
  - Polyuria.

Reversible

Pathogenesis

1. Neuropathy → autonomic & Somatic Neuropathy
   - So usually ass. ē Neuropathic Bladder
   - dt Bladder dysfunction ← Retrograde EJ → d.t Common NS of Bladder & Penis.
2. Vasculopathy →
   - Microangiopathy: of Small B.V. → Narrowing
     - Atherosclerosis (lost elasticity).
     - Asthenosclerosis
   - d.t ass HTN
   - d.t ass Hypercholesterolemia

3. Cavernous (Endothelial) . ↓ Neurotransmitters < VIP / NO
. ↑ ms. Tone. → weak erection

4. Metabolic Neurogenic Tissue Glycosylation
→ ED

5. Psychogenic . Partial ED → Severe Performance
Anxiety → Complete ED.

NL
. Hormones
. Desire
+ Bladder Symptoms

Diagnosis of Diabetic ED:

① History
② Exam. → Neurological reflexes
③ Invs

⚠1 Differentiate bet. organic & Psychogenic < ICI / Rigiscan

ICI
: Arteriogenic
. Veno-
. Neuro-

⚠2 detection of Cause of organic:

. Inv. For Arteriogenic
" " Veno-occlusive
. " " Neurogenic.

Predictors of diabetic ED
- Retinopathy.
- Neuropathy.

Treatment

Early stages
(Prevention is better than control)

1. strict diabetic control → ↓ progression of Neuropathy, Micro-angiopathy.
2. Sex Therapy → ↓ Anxiety & improve Sexual pts.

Late stage

1st line → non invasive ED (Viagra)

2nd line → ICI

3rd line → Implant

Q) 2 common S.E

Inf. (avoided by)
- Strict Aseptic Conditions
- proper evaluation by Glycosylated Hb.

Erosion & Extrusion of the device
avoided by avoidable of too long devices.

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5 Adrenal disorders:

- Addison
- Hyperadrenalism (↑ Cortisol)
  - Pit. Tm → Cushing
  - ACT ← Exog. Cs / Exog. ACTH Tm.
  - ED is d.t
    - Pit. Tm → pit dysf.
    - direct effect of Cortisol on Pit.
    - direct -- effect of Cortisol on Testes.
- Hypoadrenalism
  - Causes generalized debilitat^ → Fatigue, HypoTN & ED

Aging → ↓ Hypogonadism → (W) Testost.

6 Testicular disorders:

... The basic rule.. is that androgen replacement therapy
- is not effective (in) improving the sexual desire & Performance except in patients ē documented androgen deficiency
- Oral or injectable androgens arn't physiological ways in delivering androgens.
- New transdermal androgen delivery systems may be more physiological as they produce Serum Level Similar to NL biological rythms..

Polyglandular Autoimmune disease :- An Autoimmune disease that transmitted as an Autosomal dominant disease ē Circulatory antibodies against many Endocrine glands → Multiple Endocrinal Failure.. -- Less common in males. In Addition to Testicular failure There may be Hypothyroidism, Hypoparathyroidism & I.D.M -- it has to dif. from panhypopituitarism.

سؤال احتمال وارد

Iatrogenic ED

1. Surgically (& Trauma) Induced ED
2. Drug induced ED

A. Surgically induced ED:

1. Arteriogenic:

- Pelvic operation
- Abd. operations
- Pelvic Trauma & irradiation

→ Aortofemoral by pass / Iliofemoral by pass / Renal Transplant

usually causes injury to Int. pudendal or Common Penile a. in pt. 20-40 y.

2. Venogenic ED:

- Priapism
- Fracture Penis
- Peyronie's

- Late II: Abnormalities of Tunica Albuginea
  Penile trauma
- Late III: Abnormalities of Cavernous smooth ms → Priapism
- Late IV: Abnl Acq. Venous Communication (Fistula)
  - Trauma
  - Transurethral Surgery

Shunting operation for priapism

1/01

(C) Neurogenic ED:

- Brain → Trauma
- Spinal Cord → . Disc
  . SCI
- Peripheral Nerve Injury:
  - operat^ on : UB, prostate, urethra.
  - pelvic fracture
  - TURP

(D) Penile Causes of Iatrogenic ED:

- Peyronie's d.t. trauma by ← ICI, VCD, Sexual Inter.
- Excision of plaque ⟷ HH may → ED
- priapism → Pelvic ← Edema, Hematoma → Venous obst., Metastases of Peni.
- priapism → surgical shunting
  - " → Venogenic ED

(E) Endocrinological Cause:

Trauma or operat^ to ← Hypoth, Pit., Testes, Suprarenal, Thyroid.

(F) Medical Causes

drugs

7. Hormones

- Oestrogens (in HTG Cancer Prost.) → ↓ libido.
- GnRH Inhibitors: leuprolide.

Antiandrogens

- Cimetidine (++)
- Ranitidine (+)
- Famotidine (No) — ofy
- Aldactone
- Ketoconazole
- Cyproterone acetat (Diane)

(9) Flutamide

New Anti-androgen w/ out effect on libido or potency

8. Recreational Drugs

(A) Alcohol

Acute effects

- Small dose: ↑ desire (d.t release from inhibit.)
- large dose: acute ED (d.t central inhibition of dopaminergic system)

Chr. effects

- ED
- ↓ Libido
- Gynecomastia
- ejac. disturb.

why:
- CNS depression
- ↓ neuropathy
- ↑ PR
- direct effect on testic. funct.
- LCF → Testosterone

(B) Marijuana, Cocaine, Heroin:

- ↓ Test.
- ↓ libido
- Gynecomastia
- ED

(C) Smoking.

9. Other Drugs

Acute effects → acute VC & disturbance in Veno-occlusive Mechanism of Corp. Cav. → ICI (Failed test)

Chr. Effects

Inverse relat. bet. No of Cigarettes & rigidity & duration of Noct. Erect.

↑ Risk if
- Aging
- DM
- HD

- Digoxine: similar in its structure to Sex Steroids
  - ↓ T
  - ↑ PRL
  - ↑ Estrogen
- NSAIDs
- Metronidazole.
- Cytotoxics — MTX, cyclophosphamide
- Clofibrate. (Anti Hyperlipidemic)

Drug induced ED (≃ > 200 drugs) (91)

(سؤال امتحان)

1. Anti Hypertensives
2. Antidepressants
3. Anti psychotics
4. Anti anxiety
5. Antihistaminic
6. Anti cholinergic
7. Hormones
8. Recreational
9. others

① AntiHypertensives

(↓ B.P below critical level necessary to maintain suff. flow for penile erect^ usually in an. astherosclerotic a. because diseased aa. need BP > their dilatat^).

ⓐ Centrally acting sympatholytics (↑PR, ↓ libido, depression)

- α-Methyl dopa
- Clonidine
- Reserpine

ⓑ α1-adrenergic blocker (ED & retrograde ej)

- Phenoxy benzamine
- Prazosin (Minipress)

ⓒ β-adrenergic blocker (↓ libido, PD → Peyronie's D.)

- BB

NB

α1 → Agonist: Ephedrine & Pseudo; Antagonist: Prazocin

α2 → Agonist: Clonidine; Antagonist: Yohmbine

ⓓ α & β Blockers

- Guanithidine (ED & Aspermia)

ⓔ V.D → Hydralazine (ED & priapism)

ⓕ Diuretics →

- Aldaltone (??)
- thiazides
- Frusemide] (rare)

→ * the only Antihypertensives that don't cause ED ③:

- ACE-I (improve erect)
- CCB (±)
- Minoxidil (Mixed results)

2. Antidepressants

(So use ē Yohmbine)

- TCA (Tofranil)
- phenothiazine
- Fluxetine
- MAO

Chol & adren. blockage, ↑PR, -- CNS → d.t → ED, ↓libido, Gynecomastia, Aspermia.

3. Antipsychotics

(Major tranquilizers) (schezophrenia)

- phenothiazines
- thioridazine
- chlorpromazine

4. Anti Anxiety

(minor tranquilizers)

- Benzodiazepines (as diazepam)
- barbiturates

↓ libido, Aspermia

5. Antihistaminics

- diphenhydramine.

6. Anticholinergic

- Atropine
- Antispasmodics (Prostathelin)
- Anti Parkinsonism (Cogentine)

NB

- Antidepressants: all suppress (libido, erect, ejac.) except Trazodone.
- Anxiolytics: diazepam & lorazepam -- ejac; no effect on (libido, erect)
  - Flurazepam → ↑↑ libido, no eff.
  - Buspiron → enhance all.
- Antipsychotics → all suppressive.

Treatment of ED

1. Pharmaco therapy < Systemic / Topical
2. ICI
3. VCD
4. Surgical (Penile implants)

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1. Pharmaco therapy

→ [illegible]:
① Psychological component must be functioning
② Suitable for pt. not interested for searching for ED causes or invasive ttt.

Systemic

- [A] Centrally acting — ③ < Apomorphine / Melanotan / opioid antagonists
- [B] Centrally & Peripherally acting — ③ < Yohimbine / Trazodone / phentolamine
- [C] Peripherally acting — ② < PDEIs / L-arginine (NO donors)
- [D] Hormonal — ② < Androgens / Anti PRL

Topical

- Transdermal
- Intra-Urethral (MUSE)

[A] Centrally Acting drugs

① Apomorphine (Uprima®):

- Mechanism → Dopamine Agonist (++ D2 Rs in Hypothalamus)
- Dose: 4-6 mg Sublingual (orally not effective)
- Efficacy: . Success Response 70%
  - promise to become most effective ttt for ED (specially psych). Tested & No dependant.
- S.E: Nusea, Vomiting, Yawing

(103) ② Melanotan II (Palatin) (B)

. Mech. → (Melanocortin Rs. Agonist) (has Melano Cortins like action)

. Melanocortins < α MSH. / Adrenocortic hormone (ACTH)

(. Both regulate sexual behaviour & motivation → Erect.)

. acts mainly on MCRs 3 & 4.

. Efficacy: . ↑ desire
. ↑ Erection.

③ Nalthexone:

(↓ of resistant Hepatic problems ? Renal ↓)

. Mech. → (opiates Antagonist)

. Note opiates -- < Sexual drive. / " performance. / GnRH.

. Efficacy: some studies supported its efficacy in improving Erection in (Idiopathic) ED. while other studies (didn't support) But in both studies it (↑ NPT.)

. Recommended: used in ED & altered Central opioid tone.

④ Nalmefene:

. Mechanism: long acting opioid Antagonist (derived from Naltrexone) → (++ Axis) activity → (↑ LH, FSH & T) (but no change in NPT)

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1. Yohimbine

Mech. ① α_2 Blocker < Centrally → Excit. / peripherally → Relaxation of vascular & Corporeal Smooth m.

② ↑ eNO.
③ ++ desire → so aphrodisic Effect

(تعمل ٤) . Central . peripheral . eNO . ++ desire

dose: 10 mg three times / day. [30 mg/d]

طريقة الاستعمال: ① ondemand ← قبل العلاقة الجنسية

② Continuous ← يستعمل يوميا (والبعض بينصح انه لابد من استعماله يوميا لمدة ٨ اسابيع عشان يبان نتيجه كويسة)

improvement erection occur mainly in Pts. c psychogenic ED

لا يقيم طويل

خارج الروشتة: بعطي شئ كويس: اذا يرجع. Trittico tab.

S.E [Headache. Insomnia.
[Tremors. Palpitat.
. HTN. (marginal ↑ in diastolic).

Serotonin -- sexual fun.

2. TraZodone (trittico < 50 / 100 tab)®

Non TCA (Serotonin antagonist & Reuptake inhibitor.) Class of antidepressant

Mech. Exact mechanism is unknown (but) ±: علاجات depression
Centrally → Serotonin agonist → ↓ Exct
Peripherally → α blocker → Sympatholytic → Exct
→ Serotonin Antagonist → Exct.

- dose: 50 - 100 mg / d
- S.E: - Sedation
  - orthostatic HypoTN.
  - priapism
- Efficacy: (Controversy):
  - success rate (60%)
  - good in pt. ⊕ ED + Anxiety or depression (SSRI)
  - Recent study → Not effective.
- Note Trittico < large dose → -- Effect (Serotonin Agonist)
  Small dose → ++ Effect. (α-Blocker & Serotonin Antagonist)

3. phentolamine (Vasomax):

- α Blockers (α_1 & α_2) → sympathetholytic → ↑↑ erection
- dose: 50 - 100 mg/d at bed time
- S.E:
  - HypoTN
  - Nuses.
  - Vomiting.
  - drowsiness.
  - lethargy.

- C. Peripherally Acting
  1. PDEIs < Selective / Non selective
  2. NO donor (L-arginine)

(I) Selective phosphodiesterase Inhibitors:

1. Sildenafil [Viagra]®
2. Tadalafil [Cialis]®
3. Vardenafil [Levitra]®

• Mechanism of Act:

Erotic Stimuli < visual / audio / Tactile / Imaginary

↓

++ Higher supraspinal Sex Centers (at < limbic system / Hypothalamus)

↓

release of:

- Dopamine
- oxytocin
- Serotonin & NE (partly)
- NO
- αMSH
- ACTH

↓

++ S2,3,4 parasympathetic Spinal Center

↓

Parasympathetic N. fibers

↓ divide into:

→ Cholinergic Nerve Terminals
↓
ends at Endothelium of C.C
↓
A. Choline release
↓
++ eNO synthase enz. → NO → PDE بيكس

→ Non Cholinergic Non adrenergic Nerve Terminals (NCNA)
↓
Ends at Covernous Smooth ms:
↓
- PGE1
- VIP
- CGRP

Sexual stimulation → ↑ NO

حالتش Sexual ± مبرغز
Viagra لزسة

No

Smooth ms relaxat^ through

- cAMP
- cGMP

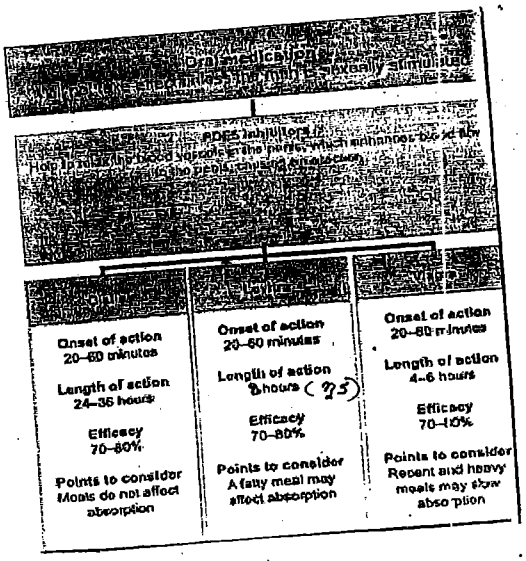
→ ↓ intra cellular Ca+ → relaxat^ → Erect^

these are the Active 2nd Massenger in Smooth ms. relaxat^ & Erect^

- They are inactivated (destructed) by PDE
- PDE enz has Main 11 Iso forms:
  - → PDE 1, 2, 3, 10, 11 → cAMP & cGMP
  - → PDE 4, 7, 8. → cAMP.
  - → PDE 5, 6, 9 → cGMP.
- Viagra is a slective PDE5 Inhibitor → ↑ cGMP → Erect^
  - in retina ↙ PDE6-I → ocular S.E.
  - also weak

PDE5 present in:
1. penis inhibit: #of ED
2. Lung Inhibit: ↓ of Pulm. HTN.

- Pharmacokinetics & Dose: 50-200 mg 1 before coitus by ≃ empty stomach 0.5-4 hrs (average 1hr) → onset of act^ é 20 mn [Maximum 0.5-2 hrs) → act^ that may extend For upto ≥ 24 hrs.
- Durat^ of: Efficacy 4 hrs. 4-6



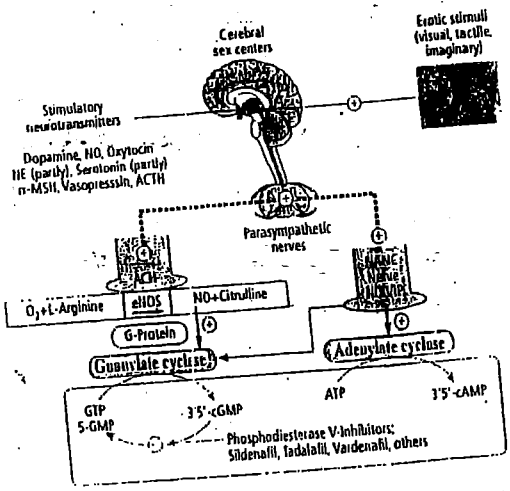


Fig. 18.1: Physiology of erection and the impact of PDE

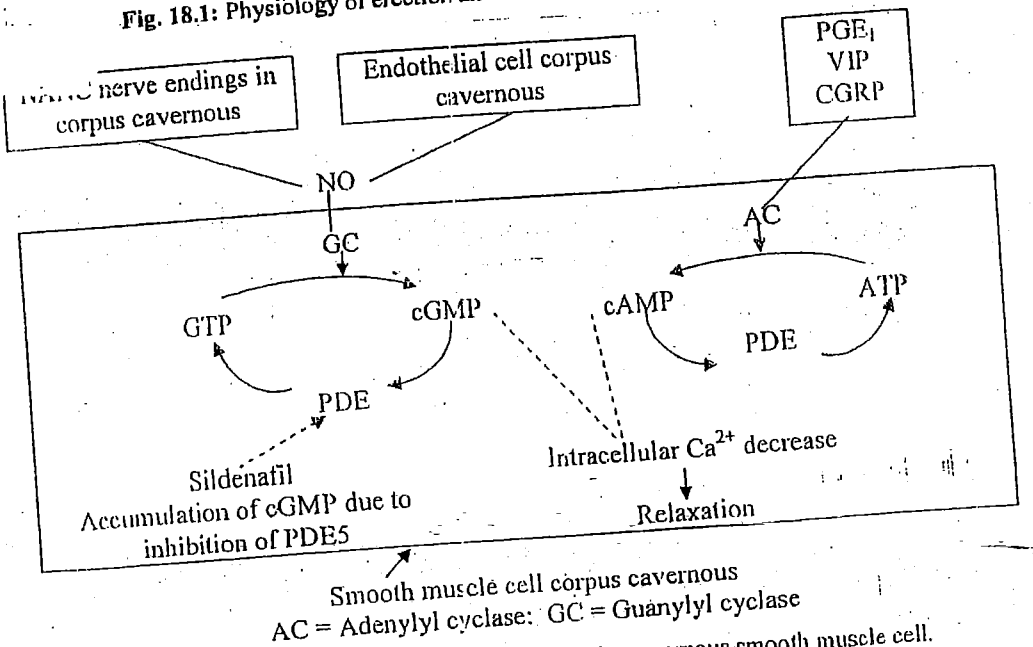


Fig. 18.2: Cellular mechanism of erection in the cavernous smooth muscle cell.

log

Kinetics

- Rapid absorption after oral intake. ✓
- Max. plasma conc. (30 - 120 mins) (Fatty meal ↓ extent of Abs. by 29%)
- Metabolized in liver & Excreted in feces (80%)
  urine (13%)

P.O. Empty Stomach

Therapeutic effects:

(1) Sild. is Erection Enhancer Rather than erection Inducer (not aphrodisiac) so sexual excitat. Required).

(2) Efficacy in different conditions:

- (a) NL individuals → no effect on erect
- (b) Psychogenic ED → 88% (on Regular use) & 92% (on demand use)
  - placebo was (38%)
  - placebo (27%)
- (c) organic ED → obvious but < Psychogenic
- (d) Mixed org. & psychog. → 78% (placebo 29%)
- (e) SCI → 65 - 80%
- (f) Diabetic → 57% (placebo 16%)
- (g) Radical prostatectomy → 43%

(So it is the most effective & promising drug in treatment of ED)

- S.E: Few & Higher doses (100 - 200 mg) rarely requires stop of The drug.
  - (A) Common not-serious
    1. Headache
    2. Facial Flushing
    3. Dyspepsia
  - (B) Rare but Serious
    1. Priapism
    2. Sever Hypoten.
    3. M.I
    4. arrythmia
    5. Stroke
    6. Visual impai (NAION)
  - (5) Visual disturbances:
    - a. blurring
    - b. loss of Peripheral Vision
    - c. Color blindness
    - d. ↑IOP intraocular pressure
  - (2) Non arteritic Ant. Isch. optic Neuropathy (Susp. by many stu...)

- Some users ex perience these Sx FDA 2005 Alert

- ↓t effect of PDE5 in tissues VD

• Contra indications:

1. Hypersensitivity to it.
2. Pts receiving Nitrates (organic Nitrates & NO donors) → ↑cGMP → V.D, Synergisme → Fatal Hypotension & Arrythmia
   - 3 ← NO donors, organic Nitrites, Nitrates
   - Viagra
   - 24 hrs (in Solid Tab.)
   - 48 hrs (in Vard) ↓ d.t prolonged half life
3. Retinitis Pigmentosa (Hereditary degenerative retinal disorders)
4. Others ← Severe hepatic impairment, Renal ", Recent stroke or Heart attack.

HYPOTN

• Drug interactions:

1. Never given ē patients taken Nitroglycerine or isosorbide
2. Cytochrome P450 inhibitors as: Metabolize Viagra.
   - Erythromycin
   - Ketoconazol
   - Itraconazol
   - Cimitidin

   ↓ Clearance of Viagra & potentiate its effect → So ↓ Viagra doses ē these drugs.

protease inhibitors → -- Viagra Metabolism → ↑ level.

HIV

Tadalafil (Cialis) (FDA approved For Lilly at April 2002).

سيالس

• Differences in Viagra: more potent

1. greater selectivity on PDE5 only
2. longer durat of act (upto 36 hrs) → So called Weekend Pill.
3. dose 10-20 mg/d
4. Safer than Viagra
5. S.E → as Viagra but ↓ Back Pain ++ or Myalgia, No Visual disturbances.
6. No interact ē food

FDA alert in 7/2005

1. Eye loss ē Viagra, Tadalafil & Levitra

. Called: non Artritic ant. ischemic optic Neuropathy (NAION) → block of Blood Flow to optic N.

Hig Risk on: ① Heart dis ② > 50 ③ Diabetic ④ HTN ⑤ smoker ⑥ Cholest. ⑦ Eye problems

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(Bayer)

Vardenafil (Levitra) ®

differ from Viagra
1. More potent & more selective on PDE5
2. More safe
3. dose: 10-20mg
4. half life 8 hr [duration of efficacy 8±?]
5. S.E →

onset
Vardenafil
> Viagra
> Tadal.

• Other uses of PDE Is:

1. Peyronie's dis.
2. prevention of stuttering priapism.
3. Raynaud's phenomenon
4. Pulmonary HTN.
5. premature ejaculation

II. Non selective phospho diesterase Inhibitors (Pentoxifylline) (1-2 g/d (IV) / 1200 mg/d For 12 wks)

Trential ⇒

- some pts receiving it for ischemia showed improved sexual function by ED
- the studies showed its effectiveness.

Mechanism ↓ viscosity, ↑ RBCs flexibility ++, ↑ peripheral flow

---

I. NO donors (L. arginine) 2 studies

- 2800 mg/d For 2 wks → improve 40%] only on those with low level of (NO)
- 5000 mg/d For 6 wks → " 31%

"Chocolate"

Good response if combined with Yohimbine

NB Gentoplex = Fish Roe + Ginkgo-biloba extract → improve sexual desire & ↑ blood flow.

L-arginine → NO

43

D. Hormonal ttt

. What is effect of T. on
- Fertility
- Erection

① Androgen therapy

indications:

a. ↓ libido
b. Severe Hypogonadism
c. Adjuvant ttt when other drugs are unsuccessful by them selves.

Mech.

1. ↑ libido & sense of well being
2. improve penile vascularity.
3. regulation of PDE5 activity (ﷺ).

in recent study: Pt. ē low or low NL T level who failed response to PDEIs (Viagra = PDEIs non responder) → TRT give +ve results.

(So altered level may alter PDE5 Expression

(X) . threshold for this alteration is: (HL)
- . Total : ≤ 10 - 13 nmol/L
- . Free ≤ 200 - 250 pmol/L.

⊙ Supraphysiological level of T may:
- . ↑ desire
- . No effect in frequency of sex.

. Forms & doses → See TRT

② Antiprolactin:

↓

Hyper Prolactinemia is ass. ē:
- . ED
- . ↓ libido
- . Gynecomastia
- . Hypogonadism.

PDE System

1/4

- Number : 11 Families & total Number of > 50 Isoforms.
- Funct: acting on the (second) Messengers < cAMP / cGMP
  → hydrolyze the phosphodiesterase bond →
  breakdown of < cAMP → to → c ATP / cGMP → 5'GMP [biologically inactive Monophosphates]
  → ↑ intracellular Ca+ →
  Smooth ms Contract → Flaccidity.

- Sites: Heart, Lung, Kidney, Retina, Vascular & Visceral Smooth ms, Testis & ovary.

- What are Types of PDE present in Cavernous Tissue??
  - PDEs → most abundant
  - other Types:
    - PDE1: < A / B / C [also present in < CVS / CNS / vascular Sm. m. → . Headache . flushing . Tachycardia]
    - PDE2: A
    - PDE3: A
    - PDE4: A, B, C, D
    - PDE 7A, 8A, 9A, 10A

(6 types)

- PDE4 & 5 inhibitors: -- Migrat^ & prolif. of smooth. m.
- PDE3 & 4 inhibitors: ↓ restenosis after angioplasty procedures (So) they are undertrial for their potential Angiogenic effects.

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PDE-I — ممكن استخدامها بطريقتين

On demand use

قبل المعاشرة (الطريقة العادية)

- 200 mg before coitus
- ½ - 4 hr
- and ... 20 m
- for 4 h

Chronic daily dosing

يوميا

adv.

1. Effective in the following conditions:
   - PDE-I Non responders.
   - Sexual rehabilitation of pts. after nerve sparing radical prostatectomy.
   - ED & CV risk factors.
2. Improves endothelial dysfunction (of C.C & all body endoth.)
3. Improving voiding difficulties in BP pt (as PDEs are widely distributed to prostate)
   - prostate
   - BP
   - after prostat.
4. Relieves the patient from scheduling sexual activities. — يبقى جاهز يوميا للمعاشرة أي وقت

(امتحان)

PDE-I Non responders:

Definition of them: [real non responders]:

- Failure of response to PDE.I under the following conditions:

1. Use of at least 4 tablets of highest dose Max. dose
2. At 4 different occasions.
3. Under optimal conditions with appropriate
   - Sexual stim.
   - Interval between

يكون أخذ وقت ساعتين بدون أكل من أخذ (Viagra & Varden.) وبين المعاشرة

أخذ وقت ساعتين من تناول (Tadalafil) وبين المعاشرة (سواء صائم أو غير صائم)

• To overcome this problem, Measures that can be done are:

(1) Use High dose → doubling the Maximum dose. (100)

(2) Shifting to another Type of PDE5I : From Sildenafil to Vardenafil

(3) Daily Dosing.

(4) Treatment of Concomitant

(A) Hypogonadism : Testosterone
- regulates PDE-5 expression
- regulates PDE-5 responsiveness to the inhibitors.
- Cavernous VD.

[PDE-I non responders]
(±) a Sign of Hypogonadism

(B) HTN, Hypercholesterolemia & DM.

Comparism bet PGE1 & Sildenafil

	PGE1	Sildenafil
	Invasive	non Invasive
	No need for sexual Stim.	Needed
	Excl~ onset: 10-15 min.	60 min.
	Mech. ↑Tc AMP	↑cGMP
	Type of Excl: Induced (non physiological)	Spontaneous
	Use in ED: 2nd line.	1st line.

NB Newer PDE5I → (161)

Topical Pharmacotherapy

A. Transdermal
B. Intra Urethral (MUSE)

A. Transdermal

1. Nitroglycerine
2. Minoxidil
3. papaverine

① Nitroglycerine:

- Mechanism → Release NO.
  → binds to Guanylate Cyclase System → ↑cGMP → ... muscle Relaxat° ∴ erection
- used as 2% < ointment / patch to penis & perineum.
- Studies (1) improve erection (but) not Rigidity
  (2) better in pts ē SCI
- limitat°: poor absorption through the thick tunica → so some make window in Buck's Facia & Tunica Albuginea & cover it ē graft From deep dorsal vein & oint. applied overSkin
- S.E: Headach & Hypotension in both partners.

② Minoxidil:

- Mech. → K Channel (opener) → Ca entry inside cells → Relaxat° & penile erect°
- used as: .1 inf, 2% sol. (capsicum)
- Better when: Combined ē Capsicum → enhance Abs.

③ Papaverine gel (15-20%) →

improve ED (in) SCI. Cases

PDEI ↑ cAMP

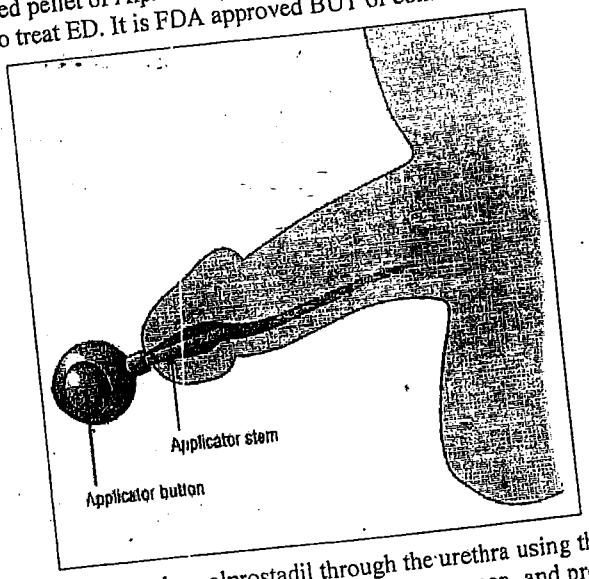
Alprostadil

B intraurethral

MEDICATED URETHRAL SYSTEM FOR ERECTION

(MUSE)

MUSE is short for "medicated urethral system for erection." It consists of a tiny medicated pellet of Alprostadil (prostaglandin E1) that is inserted into the urethra to treat ED. It is FDA approved BUT of controversial results.



Administration of the drug alprostadil through the urethra using the MUSE system is an effective alternative treatment for many men, and provides a less invasive alternative to intrapenile injection.

Alprostadil is a prostaglandin E preparation in a pellet form that is inserted with a plunger-like mechanism into the urethra opening. The plunger device is a thin plastic tube with a button at the top.

Mechanism: through delievering PGE1 into the urethra mucosa (good absorption incontrast to poor absorption through tunica)→ absorption to C. spongiosum then to C. cavernosum (due to venous communication between them).

What is mechanism of PGE1(يكتب)

↑ cAMP → ↓ intracell Ca → relaxation

11/9

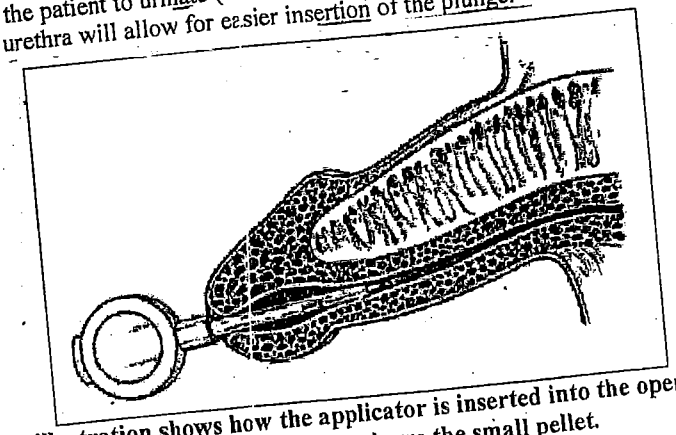
. Apparatus : formed of 2 parts. [2] plastic tube.

[A] **Plunger**(المكبس)

The plunger device is pre-filled to deliver a pellet about an (inch) deep into the urethra at the tip of the penis.

Method :

* Using a plunger device ,PGE1 is inserted into the urethral opening. The plunger device is a thin plastic tube with a button at the top.
* Ask the patient to urinate (because lubricants should not be used and a moist urethra will allow for easier insertion of the plunger device).



This illustration shows how the applicator is inserted into the opening at the end of the penis to leave the small pellet.

* Insert the tube about 1 inch into the urethral opening and press the button → A pellet containing the drug is released.

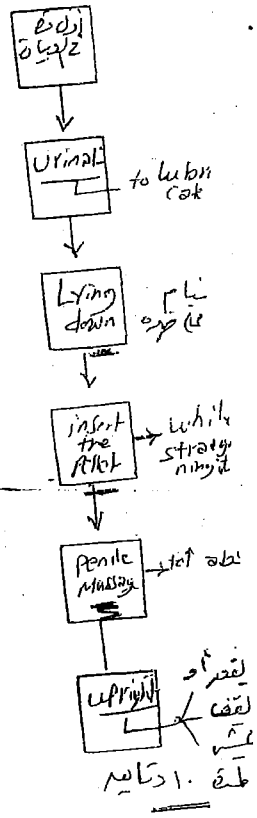
* After insertion, the pellet within the urethra should be dissolved by massaging or "kneading" the penis for about a minute.

* To avoid discomfort, keep the penis as straight as possible during administration. Roll the penis between his hands for (0 to 30) seconds to evenly distribute the drug.

* Avoid Urinating or urine leakage right after administration (may reduce the amount of medication).

* the patient is asked to get upright(either sitting, standing or walking for about 10 minutes after administration, If you lie on your back too soon after administration, blood flow to the penis may decrease and the erection may be lost).

* Erection will be achieved that lasts between (30 to 60) minutes. The erection may continue after orgasm.



· Dose : [· Start ē 500 Mg & then either ↑↑ or ↓↓ The dose according to the response.
· Not ≥ 1- 2 times/ day.

· SE : ① Pain (testicular or penile) ③ Hypotension
Urethral → ② Burning sensation & Bleeding ④ S E of PGE → priapism or fibrosis.

120

NB: IF significant symptoms of hypotension Symptoms include dizziness, lightheadedness, and fainting. If these symptoms occur, the man should lie down immediately with his legs raised.

5- Female SE: *Vaginal burning or itching OR TOXIC EFFECT ON FETUS (if she is pregnant)

* One of the more unusual side effects involved a case where the MUSE pellet became caught in a female partner's mouth during oral sex and created an allergic reaction which necessitated a trip to the emergency room. For this reason, oral sex is not recommended when using the MUSE system..

Contra-Indications:

teratogenic

1- Blood coagulopathy or using anticoagulants.
2- if the female is pregnant or is likely to get pregnant (use condom)
3- hypersensitivity to prostaglandin, and sickle cell anemia.
4- Abnormal penal anatomy
5- Taking certain cold and allergy remedies may offset the effects of the MUSE-administered drug

Efficacy(فاعلية)

The Medicated Urethral System for Erection study group -(M.U.S.E.) have mentioned good results with the use of transurethral alprostadil, in a pioneer study; 64,9% of patients had sexual intercourse at home, regardless of impotence etiology and their age, with only 5,1% of discreet urethral traumas. However, 32,7% of the patients mentioned pain after the transurethral application. More recently, Porst reported that 43% of patients treated with 1000mcg of transurethral alprostadil were able to have a sexual intercourse, but only 10% mentioned rigid erection. Similarly, Werthmam and Rajfer obtained 30% of erections that enabled vaginal penetration, but only 7% of 100 patients using up to 1000mcg of alprostadil mentioned rigid erections.

In another study, the efficacy of intraurethral alprostadil was evaluated in a double-blind, placebo-controlled trial in 1511 men with chronic erectile dysfunction from a variety of organic causes. Two-third of these men responded to intraurethral alprostadil with an erection sufficient for intercourse in the clinic; these men were then randomly assigned to therapy with either alprostadil or placebo. Successful intercourse on at least one occasion was much more likely with alprostadil (65 versus 19 percent with placebo). Among the men who responded to alprostadil, 7 of 10 applications were followed by successful intercourse.

* In one study, 65% of men achieved erection using MUSE, and these men achieved intercourse in an average of 7 out of 10 administrations. A more recent study, however, reported disappointing results, with only 27% achieving erections and only 18% requesting additional refills.

(diabetes mule . (m))
لأهل داعوني

ICI

(Intra Cavernosal = Intracorporeal Inject=)

- **Def.** Diagnostic & therapeutic Method for ED / based on direct Injection of drugs into Corpora Cavernosa.
- There are 3 main Drugs used:

	Papaverine	Phentolamine	Prostaglandin E1 (PGE1)
Mechanism	Non Selective PDE... → ↑cAMP & cGMP	. α Blocker → relaxat= (α1 & α2)	(1) ++ Adenyl cyclase → ↑cAMP (2) -- Collagenase (TGF-β) enz. (No fibrosis) (3) -- platelet aggregat=
Half life:	. 1-2 hrs	0.5 hr . 30 min	. < 1 min
Metabolism	. by liver	. Extensive Hepatic Metab. before EXC.	. 90% Metabolized in a single pass through lung.
Preparat=	"Papaverine" الامبول ٢ مل فيه ٦٠ مجم	"Rigitin" ® الأمبول ١ مل فيه ١٠ مجم	. Alprostadil ® . Caverject ® الامبول ١ مل فيه ٥٠ ميكرو
S.E / disad. (main) (disadV)	. Fibrosis ← Peyronie's . Priapism . Hypotension	. Tumescence (not rigidity) . Hypotension Tachycardia	. Pain less Common fibrosis.

- **NB:** . PGE1 : is the most efficient, less S.E & ! only FDA approved.
- Andropen: Autoinjection device = PGE1 → زي قلم انسولين كده عليه جرعة جاهزة للاستخدام الذاتي

- other less Commonly Used drugs: لا تستعمل فعليا.
  - CGRP
  - VIP
  - Na - Nitroprusside.

Dose & preparations: [1] when using Single Agent:
- Papaverine: 30-120 mg (usually 30-60)
- Phentolamine: 0.5-1 mg
- PGE: 10-20 Mg.

[2] Using Combinations:

Bimex
Rigitin + papaverine (1:30 mg)
(1 mg) + (30 mg)
↓
priapism

NB phentolamine ± replaced by Chlorpromazine.

Trimex
PGE1 (50 mg) 0.05 ml
+ Papaverine (45) 2.5 ml
+ phentolamine (5) 0.5 ml
+ Saline 1.2 ml
(4.25 ml)
↓
dose 0.25 ml - 1 ml

Quadrimex
(100 ug)
+ (270 mg)
+ (20 mg)
+ Atropine (4 mg)
↓
dose: 0.1 - 1 ml
↓
Better to be avoided for Fear of Severe Cardiac Collapse.

NB
The Best Used Single Agent is: PGE While the best of all (Single or Combination) (Trimex) or Goldstein Sol.

- other less commonly used drugs: لا تستعمل فعليا

  - CGRP
  - VIP
  - Na - Nitroprusside

Dose & preparations: 1 When using single Agent:

- Papaverine: 30-120 mg (usually 30-60) — ½ أمبول - ٢ أمبول
- Phentolamine: 0.5-1 mg — ١/١٠ أمبول إلى ١/٢ أمبول
- PGE: 10-20 Mg. — ع ٤ شرطة من أمبول

2 Using Combinations:

Bimex تركيبين

Rigitin + Papaverine (1:30 mg)
(1 mg) + (30 mg)
↓
priapism

NB phentolamine ± replaced by Chlorpromazine.

Trimex (أوفق حاجة)

PGE1 (5 amp) 0.05 ml (١/١٠ أمبول)
+
Papaverine (45) 2.5 ml
+
Phentolamine (5) 0.5 ml
+
Saline 1.2 ml
(4.25 ml)
↓
dose 0.25 ml - 1 ml

Quadrimex

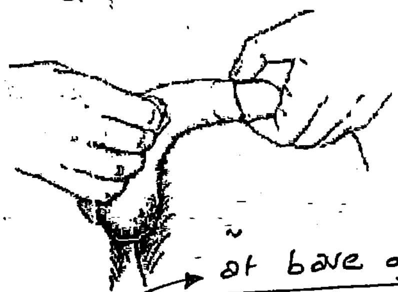
١/٥ أمبول (100 µg)
+
٥ أمبول (270 mg)
+
٢ أمبول (20 mg)
+
Atropine ٤ أمبول (4 mg)
(الأمبول أي حجم)
↓
dose: 0.1 - 1 ml
↓
- Better to be avoided for fear of severe cardiac collapse.

> NB
> The best used single Agent is: PGE while the best of all (single or combination) is Trimex or Goldstein Sol.

TECHNIQUE OF ICI

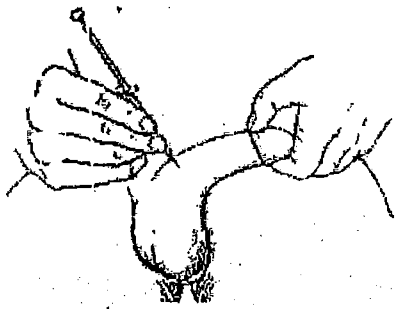
either → Androgen: زي تسليك شطاف فيه حركة معاكسة
By → insulin Syringe

(1-) Use injection site as illustrated. This area is designated on the drawing with the crosshatch marks. & rubber band is put at base of penis to ↓↓ escape of ! drug to ! circulat=.



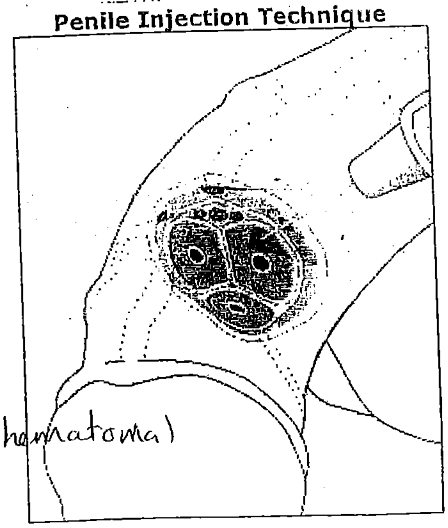
→ at base of penis

(2-) Locate the area of injection. Wipe off with an alcohol swab. Grasp the head of the penis, not the skin. Position the penis along your inner thigh. Maintain traction on the head after cleaning the side of the penis



(3-) Grasp the syringe between the thumb and middle finger like a pen. Place the needle on the site of injection at a 90 degree angle. Push the needle in, gently but firmly, all the way down to the hub. تحقن ببطء على مدار ١٠ ثوانٍ

Penile Injection Technique



(4.) Site of inj.

- at dorsolat aspect of base at 2 & 10 O'clock
- avoid inj. at
  - 6 O'clock → Urethr. injury
  - 12 O'clock → Penile aa & Ns injury.
  - 3 → at septum (hematoma)
- during inject=: 2 resistance sites are felt: at skin & Tunica.
- if persistent resistant → Indicate that the needle cross the opposite side of Tunica (Septum).

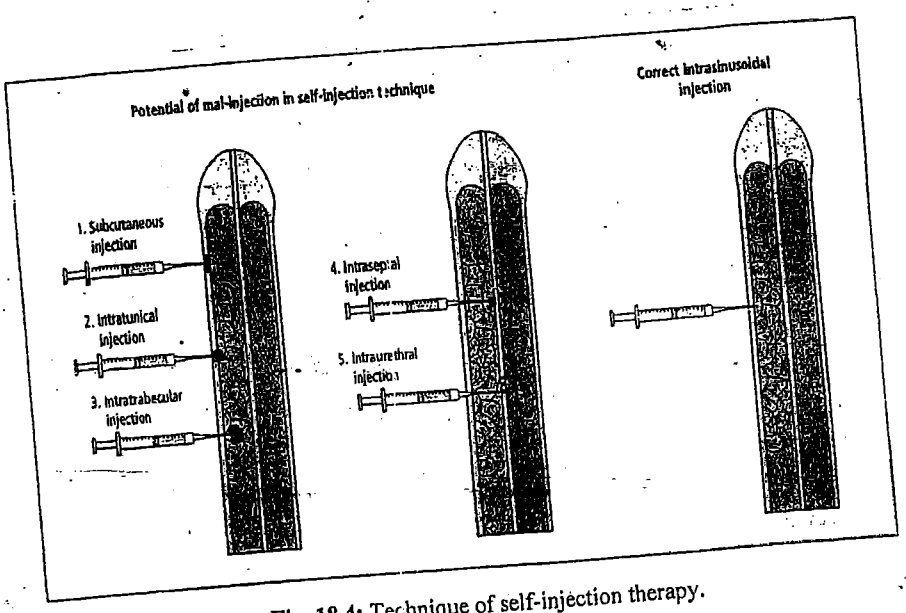
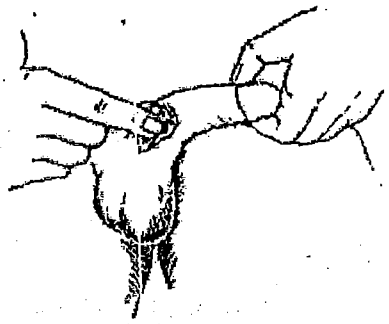


Fig. 18.4: Technique of self-injection therapy.



(5) Remove the needle. Apply pressure with your index finger on the injection site and your thumb on the opposite side of the penis. Apply pressure for 2 minutes. (or 7 mins in Coagulopathy pt).

↓

Evaluation of response

(تقييم الاستجابة)

- E_0 = No response
- E_1 = Elongation
- E_2 = Partial Tumescence
- E_3 = Full ~
- E_4 = Partial Rigidity
- ✓ E_5 = Full ~

(Not Ex)

NB:

(1) 2 should be combined ICI testing < CIS ?? / pelvic exercise

(2) if used as therapeutic:

- Not > 3 times/w or 1/day

Interpretation of the test → See Arteriogenic ED

• Indications of ICI

Diagnostic for:

1. ED : to diff. bet organic & psychogenic
   - rapid, simple, cost effective
2. PD : to detect the penile deviat⌒
3. Combined with other diagnostic tests
   - PPDU
   - Arteriography
   - Cavernosography
   - Cavernosometry.

Therapeutic ← ED, PE

[very effective Nearly in all Types of ED]

① Psychogenic ED :
relieve performance anxiety & restore spont. Erect⌒

② Organic ED :
(program of preconital self inj.) ± followed by spont Erect⌒ ??
- ↓performance anxiety
- Good tissue oxygenat

③ used in # of P.E
(see PE).
premature ejaculat

Contraindications

5 = Hypokalemia, Coagulopathy, Glaucoma

- ✓ Intolerance to Hypotension
- . Severe Psychiatric illness
- ✓ Poor vision or Manual deterity
- ✓ Morbid obesity → difficult to inject
- . Anticoagulant # (relative C.I)
- ✓ Glaucoma & BP (papaverine)
- ✓ . Severe
  - systemic dis
  - Blood dis
  - Venogenic ED
  - PD.

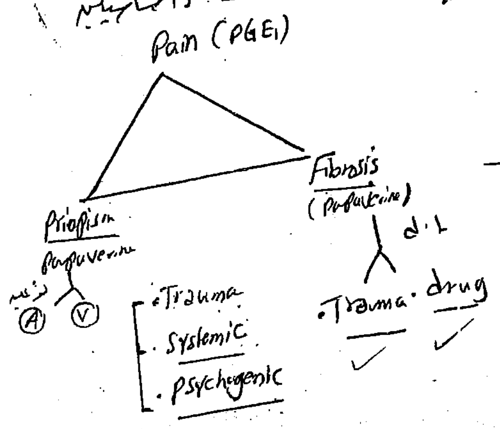
Complications of ICI

① Prolonged Erection & Priapism — ↓incd ← Suitable doses: PGE1 (1%), Papaverine (10%), Bimix (7%) — أوائل ↓ dose use PGE

priapism ← ①
±
Ischaemic → ↓ → veno-occlusive ↓ injury
Non-Ischaemic → How ?? ↓ arteriogenic

② Pain: Common ē PGE1 (add procain)
- mild & don't interfer ē course
- only 3% discontinue d.t this pain

③ Fibrosis:
- most serious & late complications
- incd. → PGE (1%) [why: ... TGFβ → ... Fibrosis]
  → (papav) (12%) [why?? d.t acidity of papaverine → ppt at alkalinity of blood. ↓ Fibrosis]
- Proper technique ↓ it



if occur → Stop it for 2m for possible spont. improvem. then Repeat inj. again under proper clinical & sonographic follow up.
↓
if no spont. improvem. &/or there is Tachyphylaxis
↓
Stop ICI & shift to another line.

④ Faulty inject: → trauma
. injury of: Urethra, Neurovasc. bundle, sinusoidal walls, Corporal septum → hematoma & late fibrosis

⑤ Systemic Complications
- Hypotension (d.t systemic abs) more ē: phentolamine, papaverine, venogenic imp.
- Hepatotoxicity (" " " of papaverine)
- Tachycardia

⑥ Psychogenic Complications: lack of satisfaction d.t
- (1) Anxiety about injection pain & complications
- (2) " " artificial nature of Erection

VCD (Vacuum Constriction Devices)

Indicat: organic ED ē Refusion of implant or ICI

structure: 3 basic elements

- **Vacuum Chamber (Cylinder)**
  جزء أسطواني ملازم للتغضب علشان مش كل شيء الغضب
- **Negative pressure pump.**
  Connected to the Cylinder → -ve pressure → Rushing of Blood to Fill cavernous tissue (erection like state; NOT True erect as there's no dilatat^ of cav. Tissue.)
- **Tension Rubber band**
  Moved along the Cylinder to base of penis to entrap Blood into it. then Chamber removed & coitus started
  [band not apply to base > 30 min → isch]

Complicat:

1. Pain & Ecchymosis
2. Pulling of scrotal skin into Vacuum Cylinder (if large sized)
3. Cation ē Blood dis. & Coagulopathy
4. -- of Ejaculat^ (by ring on base of penis)

Advantage: minimal invasion & Complication. so → ± preferred by many patients.

Disadvantage: (1.) lack of spont. Erect^
(2.) dissatisfact^

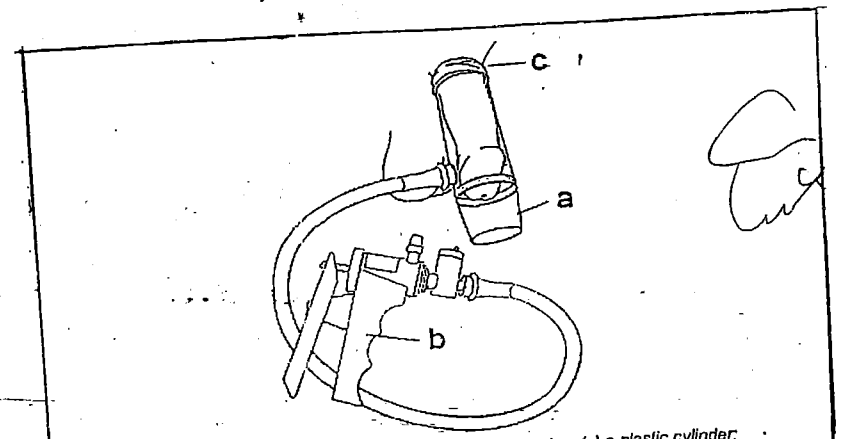


Figure 7-20: Components of a vacuum constrictor device: (a) a plastic cylinder; (b) a pump; and (c) an elastic (constrictor ring).

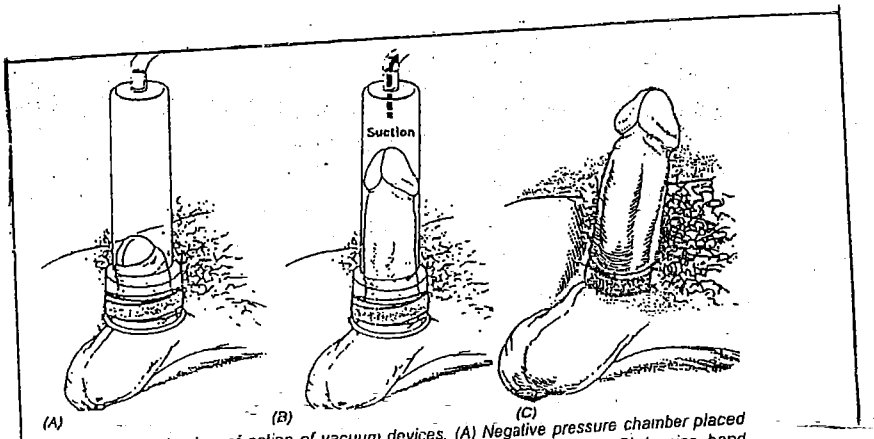


Figure 7-21: Mechanism of action of vacuum devices. (A) Negative pressure chamber placed over penis; (B) vacuum pulls blood into penis to produce tumescence; (C) tension band transferred from chamber to base of penis to entrap blood inside

Examples of vacuum devices available on the market:
- ErecAid system (Osbon Medical Systems, Ltd., Augusta, GA).
- Post-T-Vac vacuum therapy (Post-T-Vac, Dogde City, KS).
- Response/touch vacuum constriction (Mentor, Goleta, CA).
- VED vacuum erection device (Mission Pharm, San Antinio, Tx).

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(Ref. Penile Implant for ED 2007 by Nariraath).

Penile Prosthesis (Implant)

Indications: Any Patient ē ED &/or deviation (that Prevent Inter Course) after farlure &/or unacceptance of other less invasive Measures as:

- Oral Therapy
- ICI
- VCD

(no indications +)

- DM
- RF
- Neurogenic ED
- Vasculogenic ED
- Pyronies dis
- priapism
- Psychogenic ED (after farlure of sex therapy & deep psychosis other Measures).

Types of penile Implants

- Soft Silicone
- Semirigid
  - Mechanical
  - Malleable
- Inflatable (Hydraulic)
  - 2 piece inflatable
  - 3 Piece inflatable

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1- Soft Silicone Implant

inserted in c-c.

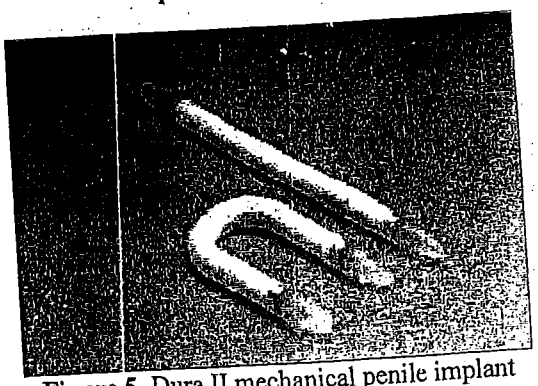
indicated in spongy erectile tissue

Figure 6. Virilis soft silicone penile implant.

* Currently these devices are manufactured in France and sold under the names "SSDA" and "Virilis" in a number of countries.
* This implant is indicated in the presence of residual spongy erectile tissue which permits tumescence and complementary girth expansion around a central silicone support.

2- Simirigid

A- Mechanical:



articulating segmen held by central ring Covered by Silicone. Jacked

Figure 5. Dura II mechanical penile implant

* *Structure*: articulating segments of polyethylene held together by a central spring and is now sold by American Medical Systems. (Figure 5) These articulating segments are covered by a polytetrafluoroethylene sleeve surrounded by a silicone outer jacket to prevent ingrowth of tissue into the prosthesis parts.

Advantage: 1-better concealment (during day time activity).
2- no spring back after bending

Disadvantage: excessive bending may lead to damage. (rupture

A- Malleable (rigid enough for coitus and malleable for daytime concealment):

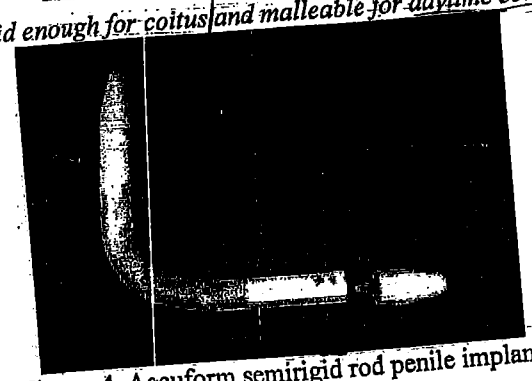
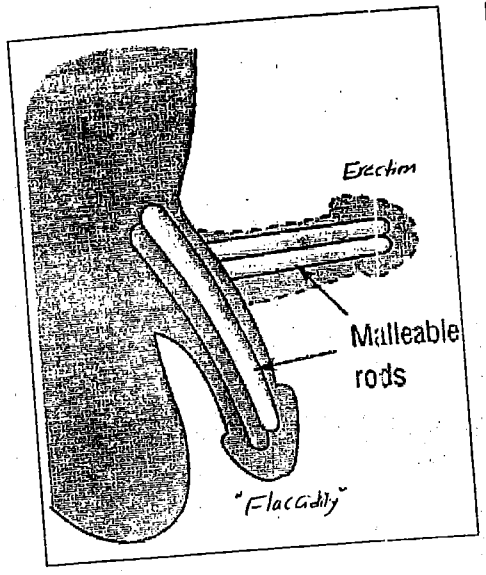
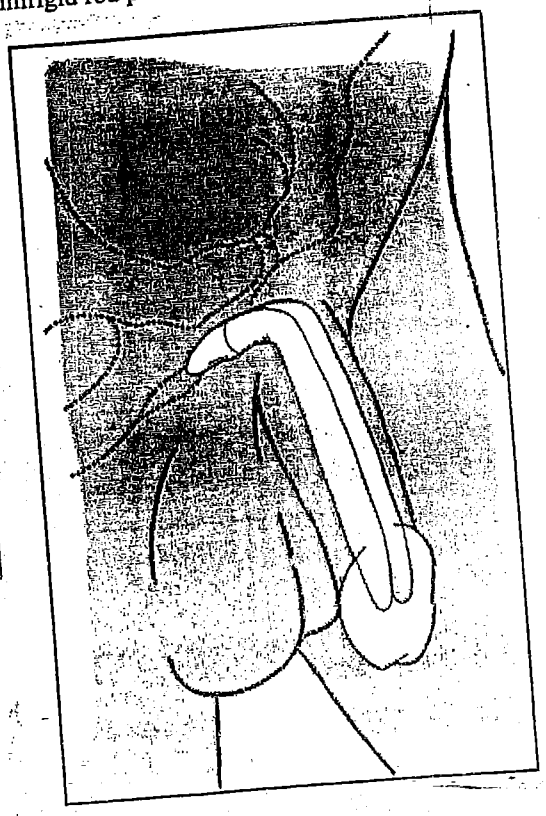


Figure 4. Accuform semirigid rod penile implant.





Structure: braided silver wire surrounded by a silicone coat.

→ *Advantage:* 1- cheap, easy implanted
2- less incidence of mechanical damage (less than inflatable)
3- suitable for Pyronie.

→ *Disadvantage:* 1- Penile flaccidity, concealment, and girth are not optimal.
2- More liable to erosions in neurogInic ED.

The rods are usually placed through circumcision-like or penile-scrotal incisions.

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3- Inflatable:

The inflatable implant is a common penile prosthesis that's more physiological.

The inflatable devices are either:

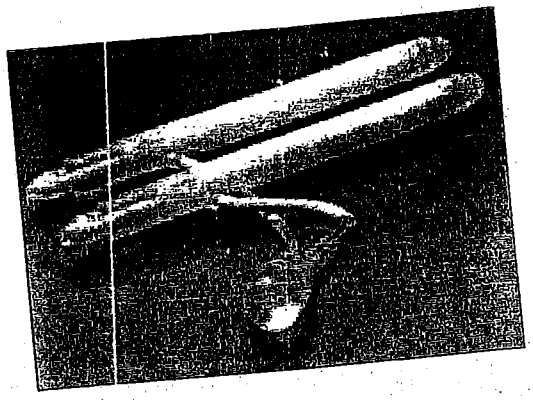
A- **One piece inflatable prosthesis (Dynaflex model):**

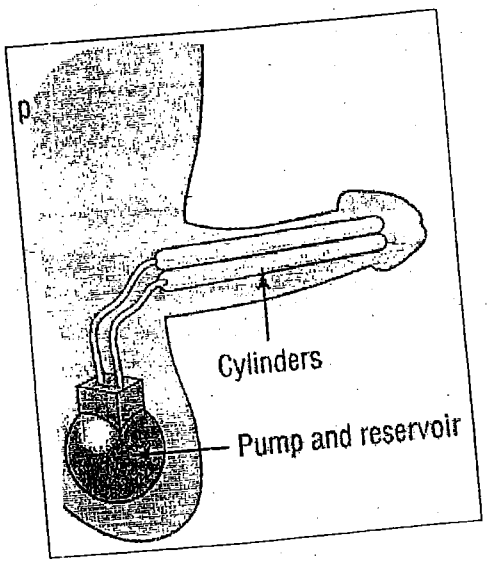
*Double roads device composed of 3 parts: proximal reservoir cavity, central mid chamber and distal pump at glans.

* when erection desired press the pump at glans → fluid transfer from the reservoir to the central mid chamber → inflation

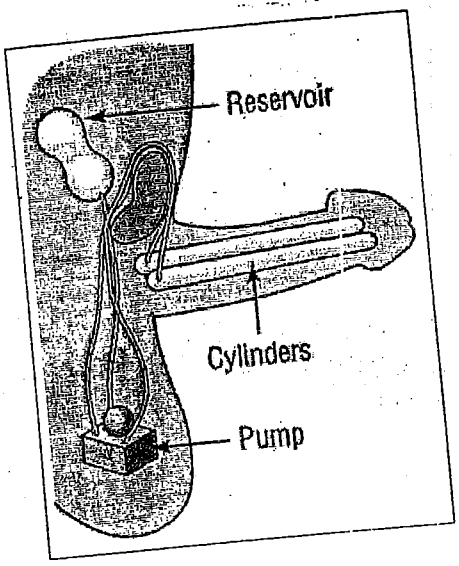
* Deflation done by steady bending for 10 seconds → fluid will pass from the chamber to the reservoir.

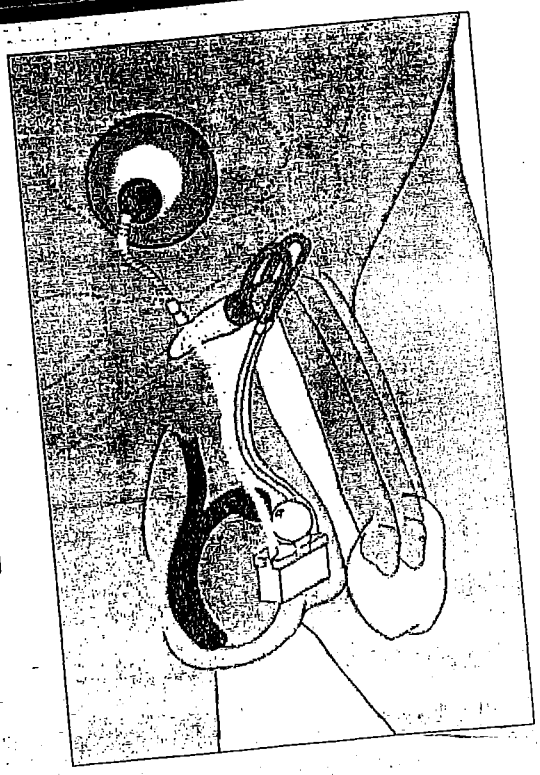
B- **Two piece inflatable prosthesis**, the pump and reservoir are in the scrotum and are used to inflate the cylinders into the erect position. The cylinders are then deflated by pressing a valve at the base of the pump to return the fluid to the reservoir





Three piece inflatable prosthesis, the pump is in the scrotum and the reservoir is in the abdomen.





* Implantation of the multicomponent inflatable prosthesis requires placement of inflatable cylinders into each corpus, the reservoir into the perivesical or preperitoneal space, and the pump into the scrotum (on the right side for right-handed patients, on the left for the left-handed).

* This device connects through a tube to a flexible fluid reservoir and a pump. The pump is shaped like a testicle and inserted in the scrotum. When the pump is squeezed, the fluid is forced into the inflatable cylinders

implanted inside the penis, producing an erection.

* Both types increase in girth, and the three-piece devices also increase in length.

* The inflatable cylinders produce a more natural effect. The patient is able to simulate an erection by using a pump located in the scrotum.

* Two-piece systems are particularly useful for patients in whom placement of an abdominal reservoir would be difficult or impossible. They are also somewhat easier to place surgically, but produce approximately 80% to 85% of the girth change and rigidity of the three-piece unit and less flaccidity when deflated.

disadv. : damage.

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• Basic Surgical Technique (Procedure)

(A) Strict Aspetic Conditions: الشروط الواجب توفرها to prevent the most important & Serious Complication (inf.):

1. H of any Septic focus eg SKin or UTI.
2. shaving ! Pubic area. "حلاقة" قبل العملية
3. Antibiotics:

قبل العملية بساعة وطبعاً ٤٨ ساعة بعد العملية وذلك لاستمرار مفعولها.

. Vancomycin + Gentamycin

or: Cephalosporines + Quinolones.

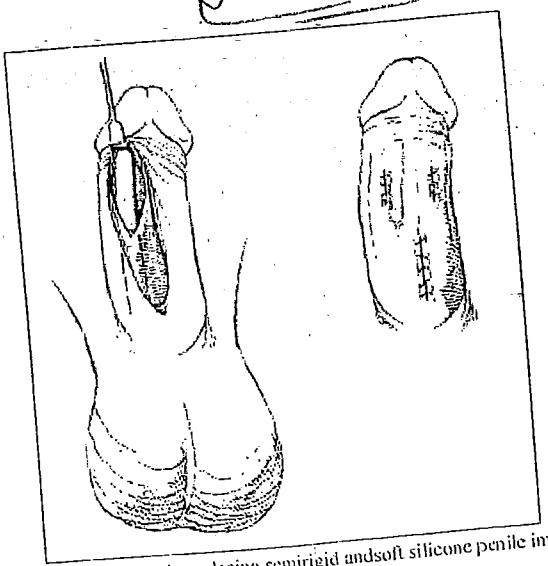
4. Continous wound irrigat° during operat°.

(B) SKin incision: ٣ طرق

1. Dorsal Sub Coronal
2. Infra Pubic.
3. ventral (penoscrotal) (الأكثر استخداماً).

. less incid of (inf) & (scarring)

. good healing



Ventral penile approach to placing semirigid andsoft silicone penile implants.

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(C) Corporeal incision & dilatation:

. incise each Corpora longitudinally.

. Hegar dilator is introduced (#7 - #13)

(D) Insertion of prosthesis: Suitable (size) rods are inserted. Followed by closure.

up asp Complications

- Operative
  - SST deformity
  - injury to:
    - Urethra.
    - C. Cavernosa
    - C. Spongiosum
    - Penile Prosthesis.
- Postoperative
  - Early
    - Pain.
    - Infection
    - Erosion
  - Late
    - Partener dissatisfaction
    - Survival of Prosthesis

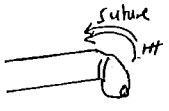
(A) Operative Complications:

(L) SST Deformity (Supersonic Transport aircraft):

. inadequate dilatation of Corpora distally or too short rods insertion → flaccidity of glans over / distal end of prosthesis → Pain & / or difficult intromission

Downward curved ←

. H: Approximation sutures bet. dorsal surface of penis & the subglandular Tunica to direct it dorsally.



2. Injury to:

(i) Urethra: usually distal in cases of difficult dilatation. postpone operation 1m
تأجل العملية لمدة شهر لحد ماتخف رتزع تاني

H:

(ii) C. Cavernosa: d.t thin dilator or forced dilatation against fibrotic areas.

- injury ±:
  - distal: → Extrusion of prosth.
  - Proximal: → Migration of prosthesis to perineum.
  - Septal: → Cross perforation.

(iii) C. Spongiosum: by surgery or Tight Dressing
- Common in diabetics & → ischemic Necrosis of Penis.

(iv) Penile prosthesis: → damage.

B) Postoperative Complications < Early. / Late.

1. Early Complications: (Pain - inf., Erosions):

(i) Pain: NLLy mild ↓perineal pain occurs in 1st 2ms but if severe or persistent > 2ms, indicating:
- Inf.
- Too long prosthesis (شيله)
- Diabetic Neuropathy.

(ii) Infection: (Most Serious & Important Complication)
- incid.: 0.6 - 0.98%
- Risk f.: [DM, Immunosupp] [UTI, SCI]

- **Organism:** Staph – E-Coli or Anaerobes
- **C/P:**
  - Persistent pain ✓
  - Purulent discharge ✓
  - Prosthetic Erosions ✓
- **Tt:** Either prophylactic (لا سعيد (لأ)) or
  - Curative (بأمر طريقتين)

Curative →

- Remove the Implant & Put dressing + Antibiotics For (6ms), then (6ms) ↓ Delayed reimplantation
  → (S.E) → Fibrosis

or

- Salvage or Rescue Technique:
  نشيل الجهاز و نحط
  Antibiotic + دواء جديد
  ↓
  successful (90%)
  No fibrosis.
  أشيله وأحط واحد جديد في نفس الجلسة مع مضاد حيوي

(iii) **Erosions:** incid ↑↑ ē:

- ↓ Sensation (DM)
- Urethral stricture
- Radiation
- Cs
- Semirigid Type.

(2) Late Complications: → Psychogenic

(i) **Partner dissatisfaction:** to avoid it:

لازم نشرح لهم شوية معلومات عن ED

- ED: ± treated ē oral, ICI, VCD.
- Orgasm: ± Need 1 Year to develop
- Penile length: ✓ شرح لهم طول في الطبيعي

(ii) **Survival of the Implant:** 5% of inflatable Implants Needed to Change after (5Y)

(d.t) Mechanical Complications.

damage

131.

Treatment of psychogenic ED

(4)

- Masters & Johnson Principles of Sex therapy
- Kaplan's principles of Sex therapy
- Behavioural therapy
- Physical lines of therapy

[A] Basic principles

١٢ نقطة

[B]. Basic Technique

[C] Specific Techniques

Masters & Johnson principles of sex therapy

[A] Basic principles

(For all sexual dysfunctions)

١٢ معلومة حيوية عن الجنس

[1] العلاقة الجنسية لا تعني = "intercourse" فيه أشكال أخرى مثيرة ومشبعة

مثلاً oral manual

[2] الجنس ليس شيء يفعله الرجل لإرضاء المرأة ولكنه شيء يفعله كلاهما لإرضاء بعضهما.

[٣.] Many Culture < Ideas & Attitudes are misleading

[٤.] the Causes of sexual dysf. are common & are not usually related to deep psychopathology.

5 قد لا يتم كشف سبب Sexual dysf. بسرعة وتتم العلاج حد كبير ناجحا.

6 Using Past feelings & behaviour to predict the underlying causes is not helpful as it may limit the Freedom to change.

7 There is No such thing as uninvolved Partner when Sexual dysf. exists.

8 شيء يعني إلقاء اللوم على الآخر يعني على أنه سبب في فشل العلاقة الجنسية

9 Assuming Responsibility For one self rather than delegating this responsibility to one Partner is often effective in Correct & Sexual dysf.

10 Sex is highly intimate form of Communicat & relationship so it is highly related to other aspects of relationship bet. Partners.

11 developing the awareness of the feelings of the other Partner will improve their relationship.

12 وجود الآخرين أثناء جلسات العلاج يعجل العلاج لأن هناك على الأقل كثير من نواحي العلاقة بينهما.

B. Basic Techniques (For all Sexual dysf.)

↓

6 Basic points should be followed For all sexual dysf.:

A Couple therapy: essential in improving all aspects of their relationship.

B Cotherapy (dual) therapy:

♂ / ♀ > معالجين

C Coordinated therapy:

ED > Psychogenic + organic Factors.

D Starting Session:

- detailed Hx taking (to detect Sexual Conflicts & Wrong Ideas)
- physical Exam.

E Sexual Guiding & Education Session:

- Correction of < Ideas, Attitudes, Behaviour

depending on data from the previous sessions.

F Sensate Focus Session:

Idea: All sexual dysfunctions are associated with Anxiety of performance → Failure to Perform (worsen the sexual dysf.) so → Vicious Circle of more anxiety.

13g

. Aim: Allowing → Gradual Sexual Exposure & to help the partners to concentrate on sexual (Sensations) & (Satisfaction) more than (Sexual performance) → ↓ Performance Anxiety & Pressure.

. Method: "Sensate Focus Program": (... تعليمات)

Sensate Focus I

Partners are instructed to stimulate each other by:

- . Kissing
- . Petting
- . Caressing (مداعبة)

with Complete Exclusion of genital Areas. They are instructed to concentrate mainly on satisfaction & pleasure ē Free Communications so that each partner can guide the other one about the excitatory & inhibitory behaviour.

Sensate Focus II

The same instructions in the previous step without genital stim. is allowed but without intromission

© Specific Techniques
(For ED)

After Completion of Sensate Focus I & II

↓

Intromission is allowed if there is Good Erect^ .. but if There is less rigid Erect^ the ♀ may gently ++ the penis

(to assure the ♂ that he can Assure his Erection many Times even after he lost it.)

↓ Then

Intromission in ♀ Superior Posit^ & she can guide penis in Side Vagina, to ↓ performance pressure & anxiety helping him to stop his Spectator role about his Erect^

("ع" ↓)

↓

Stop inter Course before orgasm & orgasm can be reached by manual stimulat^

↓

Intercourse in ♀ Superior Posit^ & reaching orgasm.

↓

Male Superior position

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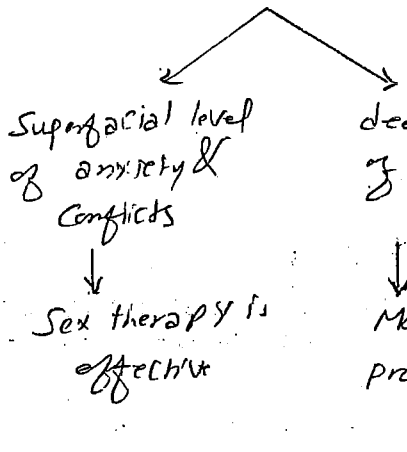
Kaplan's principles of Sex therapy

- She put similar principles of sex therapy

But she added:

1. Inhibited sexual desire concept:
   - difficult to be treated
   - may be ass. ē deeply seated psychopathology.

2. Sexual problems caused by



Behavioural therapy

- depends on principles of Master & Johnson. ē few differences as concentrat^ on:

A. desensitizat^ Techniques → to ↓ anxiety

B. Relaxat^ Techniques → ↓ Tension by specific (Breathing & Exercises)

Physical therapies

- Viagra
- Yohimbin
- ICI

] Allowing him to do sexual intercourse → ↓ Anxiety & ↑ confidence.

Ejaculation & its disorders

- physiology of Ejac.
- Disorders of Ejac.

Q: physiology of Ejaculation

- Def.
- Stimuli
- Neural Pathway
- phases

Def: Neurophysiological reflex occuring simultaneously with Orgasmic Feeling.

Stimuli & Ejac.

Central (cerebral) Stimuli

There are Cerebral Centers For Ejac.

Ejaculation may be:

Stimulated by:

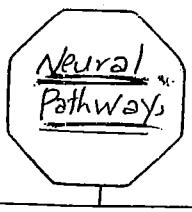
- stimulate 3 / cerebral Centers
- Sexual Fantasies, imagination

Inhibited by

- Fears
- Psychic Trauma.

Peripheral (Genital) Stimuli

- Rythmic tactile Stim. of glans / shaft → ejac.
- & this can be stimul or Inhibited by th aforementioned Cerebra Centers.



Sympathetic

Efferent motor impulses From

$(T_{10} - L_2)$ → Hypogastric plexus →

unstriated ms. of ← Prostate, S.V, Vas → تقبض

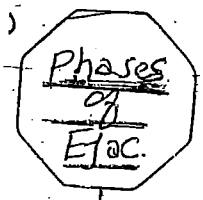
BN (تقفل)

↓

Bladder neck

Somatic (< Sensory Motor)

Genital Stim. → afferent sensory impulses along pudendal N. → $S_{2,3,4}$ → Efferent motor along the Pudendal N. → Pelvic Floor & perineal ms. < Ischio Bulbo



1st phase = Emission (ابتداء)

(Sympathetic)

def Explusion of Seminal fluid from < Vas, Prostate, SV into Post. urethra.

↓

Events (3 Contraction). (بالترتيب)

A. Contraction of < Int. urethral sphincter → Shutting of ! BN (so No RGE)

Ext. urethra Sphincter → Shutting of ! prostatic urethra (so become closed space).

B. Contraction of : Smooth ms. of: Prostate, Epididymis, VD → Emission of prostatic sec. & Sperms (1st Fract = Split. Ejac)

C. Contraction of : Smooth ms. of SV → SV secretion (2nd Fract)

2nd phase = Ejac. Proper (الطرد)

(= Antegrade ejac.) = Ejec. Expul.

(Somatic $S_{2,3,4}$)

def Expulsion of Seminal Fluid From Post. Urethra To outside of The Penis.

. 2nd phase :

(Ejaculation proper or Antegrade ejac.) = Ejection = Expulsion

(S2, 3, 4)

↓

2 Events

↙ Reflex relaxation of Ext. Urethral Sphincter

↘ Rythmic contraction of striated Perineal & Pelvic fms. (Ischio- & bulbo-cavernosus)

↓

Ejac. of Semen From The penis

NB ① The emission phase can be Voluntarily Controlled & once Emission occurs To prost. Urethra → Ejac. become Inevitable

② Prostatic Sec. (البروستاتا) Then → Spermatozoa Then → SV (سائل منوي Split Ejaculate)

Disorders of Ejaculation (سوء الإنتاج)

- Overactivity
  - . PE
- deficiency
  - . Anejaculation
  - . Retrograde ejac.
  - . Retarded ejac. delayed

Anejaculation (Failed Ejac. despite:
- sufficient Erotic Stimuli
- Good Erection
- Adequate dural of Sexual Act.)

(Aspermia)

1. with Orgasm (Orgasmic Anejac.)

Dry run or orgasm.

3 Failure of:
- production
- Emission
- Antegrade ejac.

2. without orgasm (Anorgasmic Anejac.)

Psychogenic Aspermia (Anorgasmia)

1. def.
2. Types
3. Causes

---

1. Anejaculation with Orgasm (orgasmic Aspermia)

- AEt 3 Failure of Seminal:
  - Production
  - Emission
  - Antegrade ejacn: d.t
    - RGE or
    - Retained Ejac.

- NLLY: Semen is produced → then Emitted
  then → Antegrade ejac.

Production failure d.t Accessory glands
- Atrophy (d.t Hypogonadism)
- (or) Fibrosis (post inflamm. — TB / STDs)

↓

Emission failure d.t
- Failed Accessory glands Contraction (Sympathetic injury) → See Functional obst. Azoo
- (or) EDO ✓ organic obstruction

↓

Antegrade Ejac. Failure d.t
- RGE (or)
- Retained Ejac. d.t
  - Urethral obst.
  - Failed pelvic Floor ms Contraction — LMNL: Cong. spina bifida; Acq. Cauda equina lesions
  - Failed ext. urethral Sph. relaxation (UMNL)
  - Valve, Stone, Stricture

Diagnosis

1. Hx & Exam:

. Anejac. + non viscous semen + Fructose −ve & −ve post coital urine for sperms → Failed Emission ✓

2. Lab.

. Post Coital urine for Sperms ; if +ve → RGE

. Severe oligo or Azoo. → EDO

3. Rad.: for

. EDO

. CBAVD → Renal Imaging.

Ht (of Cause)

1. Stop Drugs.
2. Ht of RGE.
3. TURED for EDO
4. Electroejaculator. For Failed Emission.

See Impotence (Tests)

Emission failure

- ED → TURED
- Sympathetic

1. Drug
2. Electroejac.
3. prostatic Massage.
4. Sperm extract

(سؤال امتحان)

Retrograde Ejaculation (RGE)

(Cryptospermia = dry Run = dry orgasm)

def. Condition in ω there is Normal Emission but not in its Antegrade direction d.t retrograde Flow in UB.

ch. By
1. Commonest Cause of Aspermia (Anejac.)
2. occurs in 1% of infertile Patients.
3. NL orgasm (فرحة) ✓
4. Color of urine may be cloudy.
5. +ve post coital urine for < Sperms ✓ / Fructose ✓

AEt → "كلها بسبب مشكلة" "BN في ال"

- **Wide BN** (Anatomical Causes)
  - **(A) Cong** <
    - Weakness of BN.
    - distal obst (urethral valve) → Back pressure → BN dysf.
  - **(B) Post operative:**
    - . TURP — transurethral radical prostatectomy.
    - . correction of BN obst. by Y-V plasty (commonest)
  - **(C) others:**
    - Pelvic Fracture < stricture urethra / ext. urethral spasm d.t UMNL
    - Meatal stone
- **Paralyzed BN** (Neurogenic Causes)
  - → Any Cause of Sympathetic injury: < Complete: Anej. / Partial: → BN → RG (وارد)
    - . DM] Medical Causes
    - . M.S]
    - . RPLND → Surgical
    - . SCI → Traumatic
    - . Drugs: (Pharmacological)
      - . Antihypertensives < α Blockers / α β bet Bl / Guanethid
      - . Antidepressants.
      - . Transquillizers.
- **Idiopathic** (Psychogenic)

Fur obst ↑

Criteria For Ø:

1. NL orgasm + Hypospermia or Aspermia.
2. +ve postejaculatory urine for ⟨ Sperms / Fructose → (شرح هاتعمله ازاي)

Post-ejaculatory urine analysis

(post coital or post masturbation)

1. Urinate before ejaculate
2. Ejaculate (coital or by masturbate) → (تجمع عينة السائل المنوي)
3. Urinate → Urine centrifugate
   - at ≥ 300 X g
   - For 10 min
   - Sediment is resuspended to 1 ml.

↓

Mic exam

- No sperms (& -ve Fructose) → Failed Emission e.g. Sympathetic injury.
- +ve sperms (& Fructose)
  - in pt ē Aspermia → Any sperm No will diagnose RGE
  - in pt ē Hypospermia & oligozoospermia → Sperm No in urine > Sperm No in the antegraded semen sample → diagnosis of RGE.

NB [1] it should be remembered that if a post coital urine sample is taken from men who ejaculate normally → +ve urine for sperms (ده طبيعي لان بعض الحيوانات المنوية ممكن تبقى في المجرى البولي من وقت آخر قذف)

[2] Mic. exam. of post. ejac. urine is difficult in pt ē Azoo or severe oligo (Fructose is preferred)

③ Genital Reflexes Exam (to detect Sympathetic injury):

Inf. Hemmorrh. N. (L1,2) → [A] Ext. Anal Reflex (sup. ... Grp): Stroking the perianal skin → contract of Ext. anal sphinct.

(Hypogastric plexus & parasymp. Ns.) (hemorrhoidal N.) → [B] Int. Anal Reflex: Introduction of Finger to anus (PR) → Contract.

[C] Cremasteric Reflex: Travel through ilioing. & genitofemoral N. (L1 & L2)

[D] Bulbocavernosus: (S2,3,4 = Pudendal) Squeezing the glans (dorsum) → Contract. of ext. anal Sphincter

④ Cystoscope & Urethroscope: to detect the Aet.

Treatment

Cause
- ANatomical Causes → rarely Curable. but ±
- Neurological Causes:
  - Neuropathy... Ht
  - Drugs... Stop
- Surgical Reconstruct. of BN.

Drugs
- that ↑↑ Adrenergic Tone → Better Funct. of BN.

(For Ht of RGE & Failed emission d.t. complete Symp. injury)

بنعطيهم له المرضى مبدئيا
ولو جا بنتيجة مستمر عليها
وخصوصا أيام السواقة

Semen Retrieval

For AIH.

أعلى الكلام = نجاح

D.M ← (1) TT. of Cause
(2) Medication
(3) sperm retrival

Drugs For RGE

(↓ parasymp → ↑ symp.)

Sympathomimetics (Adrenergic) α agonists

- Medodrin (الأفضل) 5 mg tds
- Ephedrine sulfate
  ٣٠ مجم مرتين يوميا أو قبل الجماع بساعة
- Pseudoephedrine congestal
  ٦٠ مجم ٤ مرات يوميا
  ١٢٠ قرص بتركيز

Anticholinergics (Antihistamines)

- Brompheniramine
  ٨ مجم مرتين يوميا أو قبل الجماع
- Chlorpheniramine Maleate

TCA (Anticholinergic) (Imipramin) Tofranil

reuptake of norepinephrine → ↑ levels

٢٥ مجم مرتين - ٣ مرات يوميا أو قبل الجماع

Sperm Retrieval For AIH in Cases of RGE

استرجاع (سؤال امتحان)

Artificial insemination by husband

. Urine has deleterious effects on Sperm motility & Morphology due to < Acidity & Osmolarity

. So its essential to adjust the pH (to become 7 or Alkaline) & the osmolarity (to become Isoosmolaric)

(1) Urine alkalinization

either By "طريقتين"

- NaHCO3 صوديوم بايكربونات
  ٦٠٠ مجم مرتين يوميا لمدة يومين قبل الجماع
- or
- Replacement of bladder urine c̄ Isotonic alkaline sol.
  . Voiding
  . Bladder irrigation by 120ml ringer glucose or BWW

optimum milieu for sperms → (أمثل) درجة الحموضة والتركيز الأمثل

(2) Adjustment of osmolarity

Isosmolar Urine has Specific gravity ≃ 1.01

. assessment of Specific gravity of urine of pt:

- diluted urine → . if < 1.01 → Fluid restrict.
- Concentrated urine if ≥ 1.014 → ↑ Fluid intake

So the urine become Isosmolar

Steps For AIH in Cases of RGE

Abstinence ① الإمتناع عن الجماع لمدة ٣ أيام

② Adjustment of PH (Alkalinize, 7)

③ Adjustment of osmolarity

④ Antibiotics

⑤ Bladder is emptied prior to ejaculation

⑥ Bladder emptied Immediately after ejaculation

(urination → ejaculation → urination)

علشان نقلل حجم البول قدر المستطاع

⑦ Semen processing — Washing & Concentration: the sample (Ideally < 25 ml) + 25 ml Capacitating & buffering medium e.g. Hams F-10 (to ↓ any harmful urine components)

↓

Centrifugation for 10 mins

↓

الطافي Supernatant is discarded & the sperm pellets (كرات) are reconstituted in the same Hams F-10 solution using 0.5 - 2 ml

↓

- IUI or
- IVF / ICSI (if No. of motile sperms < 10 million)

Treatment of Anejaculation

According to the Cause

(1) Failed production : d.t Hypogonadism → TRT

(2) Failed Emission

- EDO → TURED Transurethral radiction ejaculatory duct
- Sympathetic injury →

A: Drug therapy as for RGE

B. Electrical therapy,

C. prostatic Massage

D. Surgical sperm Retrival

(3) Failed antegrade ejaculation

A. RGE ✓

B. Retained ejaculation (acc. to the cause)

Treatment of Failed Emission:

A. Drug therapy : as in RGE.

B. Electrical therapy

- Electrovibration
- Electro-Ejaculation

① **Electro Vibrat~** (Electro Vibrater) [penile Vibratory stim. PVS]:

. indicat~ : SCI @ level at T5 or below it.

. Technique : . placing the Vibrater at dorsum or Frenulum of glans penis → ++ dorsal penile nerve → S2, 3, 4 → reflex ejaculat~.

. placing the probe on shaft or perineum → Not effectiv

. Vibrat~ is maintained for ≃ 2-3 mins or until antegrade ejaculat~ occurs

↓

if failed wait for 1-2 minutes & repeat

↓

IF failed

↓

auxiliary Method : ±

... use of 2 Vibrators

← Abd. Electrical stimulat~ additi~.

← oral Sildenafil before PVS.

. Advantage

IUI ?

. Disad V. → autonomic dys reflexia:

. Patients @ injury at level of T6 or above

→ ± uninhibited sympathetic reflex

→ . HTN . Sweating
. Bradycardia . chills
. Headache .
. Stroke, Seizures or death.

. Prevention of HT by Nifedipine.

C.I : untreated HTN or Cardiac dis.

---

(2) Electro Ejaculator (EEJ)

. if PVS failed → EEJ (95% success of semen retrieval)

. ياخذ المريض General Anesth. وينام ع جنبه (Lat. decubitus) ويتم ادخال الجهاز (probe) عبر طرفه شرج ← بنشغل الجهاز بتوليف تصاعدي (Max 5-25 volt) & 10-20 stimulations).

. (±) ← antegrade ejac. or RGE → so Alkalinization of urine is done before its use (AAS in RGE).

. لازم نعمل قبله وبعده Proctoscope ← to detect any rectal mucosal injury.

. يتم تكرار العملية كل شهر بالتنظيم مع فترة تبويض المرأة.

The Semen For IUI / IVF.

C Prostatic Massage:

. d.t proximity of prostate to SV & ampulla; prostatic Massage may → seminal secretion

. Chance of ejac. & obtaining Motile Sperms.

D - Surgical Sperm Retrieval : BY

. TESE or TESA

. ESA (PESA or MESA)

(2.) Psychogenic Aspermia (Anorgasmic Anejac.) = ♂ Anorgasmia

(اعراض)

Def: Disorder of ... orgasmic phase of Male Sexual Response Cycle ch. by: recurrent & persistent ← delay, difficulty or Absence of attaining orgasm following sufficient Sexual Stim. & causes personal distress.

Types: [1] Primary: (جنسي بارد) Never achieved orgasm neither by Coitus Nor by Masturbation.

[2] Secondary:

either ← was NL for certain period then become Anorgasmic
or
Selective: Anejac. occurs with his Partner (wife) & Not with Masturbation or other Partner.

[3] occasional: ← يحصل أحيانا وأحيانا لا مع نفس نوع الـ Sex.

Causes "عل حسب النوع"

1ry Type

1) Rigid & religious Family background ē prohibition of sex.

2) Obsessive Compulsive disorders. وسواس قهري

3) Biological Cause: there is strong likelihood of biologic variability in threshold of Arousal before experiencing orgasm.

2ry Type

(A) "Autosexual orientation"

بتحصل لذكور لدرجة بيفضلون الاستمناء عن العلاقة الجنسية مع أنثى ..

d.t. role of: Fantasy, Frequency, Motivation

So with Masturbation there may be striking (مرهش) ↑s:

- Speed
- pressure
- duration
- intensity

} Needed for orgasm → ŵ are Not present in NL Partner Relation

• ودي هذه الاشياء ايضا

ē • Male Conditioning:

التعود على حدوث القذف اثناء الاستمناء بالضغط الشديد على القضيب فلازم اثناء الجماع مش قوة الضغط زي ما اتعود عليها → "Psy. Aspermia"

(B) Others:
- Fear of impregnation (✓)
- lack of ♀ Physical Attraction.

Occasional:

d.t.:

1. Lack of sexual interest in particular sexual act (oral sex)
2. Alcohol.
3. SSRIs.
4. Aging.
5. Short interval bet ejaculation.

NB Delayed (Retarded) Ejaculation

- def. Inability to ejaculate or to reach orgasm in a reasonable Time despite NL sexual desire & Sexual stimulation.

- NL men ejaculate: 2 - 4 (10) mins From onset of Active Thrusting during Inter Course
- in delayed ejaculation: ejaculation (orgasm) may occur after ≥ 30 - 45 mins.

- Incid. 1 - 4 % of men

- NB → Some Consider it as a Slight Form of Anorgasmia (Psychogenic)

- Anejac. إذا هي نفس أسباب
- or
- Anorgasmia (without Ejac.)

أسباب عضوية

- Fatigue
- Alcohol

Criteria for diagnosis of anorgasmia:

1. Absence of orgasm and ejaculation.
2. Presence of nocturnal emissions.
3. Prolonged sexual act.
4. Post-ejaculatory urine shows absence of sperm.

TT of Psychogenic Aspermia (or Delayed Ejac.)

① * . **Sex therapy** (2ry Type): Ⓐ بيتعود انه يركز على مناطق مثيرة وجذابة في الزوجة ويتخيلها صورة أكثر جاذبية

Ⓑ gradual sexual Exposure: & Combined manual & vaginal stimulat.

. يعمل استمناء في غياب الزوجة
. ثم في وجودها / ثم يضع القضيب في الـ Vagina قبل القذف مباشرة
. ثم الزوجة تساعده

Combined manual & Vaginal stim.
(Holding base of penis while it inside the vagina.)

② Electrovibrator to obtain semen for AIH

③ **pharmacotherapy**: drugs used to Reverse SSRIs Induced Anorgasmia or delayed orgasm:

1. Cyproheptadine (Triactin)®
2. Viagra
3. Amantadine (200mg) [Antiviral that ↑ Dopamine].
4. (Buspiron) → Buspar (Anxiolytic): 5HT A1 agonist in pt c generalized Anxiety (15–60 mg/d)
5. في السعودية ويلبيوترين → Bupropion: ↑ Dopamine level.
6. Apomorphine & Yohimbine.

NB ♂ Anorgasmia

لو سئل ان امتحان هابتدي منها

without Ejac.

↓

Psychogenic Aspermia (تكتيك)

with Ejaculation

انعدام التلذذ

1. orgasmic Anhedonia:
   - Sacral & Cephalic lesions (Tms) → interfer c afferent to cortex.
   - Psychic:
     - الاحساس بالذنب نتيجة علاقة جنسية غير شرعية
     - الاحساس بالقهر (الزوجية)
2. Elechoejaculato
3. Epilepsy
4. Certain spinal Tm.
5. Herion & Morphine withdrawal.

Table 7-4: Differential diagnosis of aspermia.

Criterion	Psychogenic aspermia	Orgasmic aspermia			
		Production failure	Failure of emission	Retrograde ejaculation	Retained ejaculation
Orgasm	-	+	+	+	+
Nocturnal emission	+	-	-	-	-
Duration of intercourse	Prolonged	Normal	Normal	Normal	Normal
Emission	+	-	-	(+)	(+)
Postejacula-tory urine findings (sperm & fructose)	-	-	-	+	-
Pathogenesis	Psychogenic	Absent semen production	Absent contraction of accessory sex organs	Patent bladder neck	Anterior urethral abnormality
Etiology	- Sexual ignorance - Sexual inhibitions - Other factors	Severe androgen deficiency	Complete sympathetic injury	- Anatomical - Incomplete sympathetic injury.	- Obstruction. - Loss of contractile power.

GH / EM

Premature Ejaculation

(PE) (Rapid Ejaculation).

According to (DSM - IV - TR) ; it has 3 Criteria: (e)

def. Persistent or Repeated Ejaculation

1. Persistent Slight stimulation < Before, on, or shortly after Penetration (ILET).

& before the person wishes it.

2. Marked distress or Interpersonal difficulty. (d.t lack of satisfaction)

3. Not Exclusively d.t direct effects of Mental drug e.g with drawal From opioids. Defect or Chemicals

---

Other definitions:

1. Inability of the male to control the ejaculation (Persistent or recurrent) To Satisfy his Female partener in > 50% of Coital episodes provided that she is orgasmic. (because most ♂s ejaculate rapidly during certain Period of their life.)

SOL → NL ♀ orgasm

2. PE has 3 hallmarks: X

A. occurence of ejac. prior to wishes of both parteners (short IELT)

B. Lack of sexual satisfaction

C. Lack of self efficacy regarding the Condition (inability to delay ejaculation sufficient to enjoy love making)

3. IELT (time elapsed bet. Vaginal intromission & ejaculation) ; if < 1-2 mins → PE; CNL 2-4 mins

Intravaginal Ejaculatory latency

NB the 1st definition (DSM-IV) & the 8 hall-marks:

هذين التعريفين تجنبا تحديد فترة معينة للعلاقة الجنسية وللوصول الى الـ "Climax" والذي يعتبر متنوع بين الاشخاص ويعتمد على عوامل عديدة خاصة بمدى اندماج الطرفين في العلاقة الجنسية

على سبيل المثال:

if ⟨ ♂ Climax at 8 min & ♀ (wife) climax at 5 mins → Not PE

لان كل من الطرفين حدث لهما ارضاء من العلاقة على الرغم من قصر العلاقة

بالمثل على النقيض . if ⟨ ♂ Climax at 20 min ♀ " at 30 min → it's PE

على الرغم من طول فترة العلاقة ولكن لم يحدث اشباع الزوجة

ولهذا لاحظ أن ،

تعريف PE يعتمد على: قدرة الرجل على التحكم في القذف ولفترة يحدث الاشباع الجنسي للطرفين

① ⟨ Control of Ejac. / occurance of satisf.

©

if there is ♀ ⟨ Delayed orgasm or Anorgasmia → the problem is in the ♀ & Not in ♂ (PE)

③ IELT: has been used to measure PE in many studies; However Ejac. Control shown to mediate patient or partner satisfaction ē sexual intercourse & Ejaculation-related distress.

(N) IELT on those don't fit DSM overlap ē IELT on those fit DSM.

(NB) → DSM-IV-TR: Diagnostic & Statistical Manual of Mental disorders 4th edition Text revision -- by American Psychiatric Association (2000)

Classification of PE

1. Acc. to the onset:

ⓐ. 1ry PE → didn't experience NL ejac. before; always having PE.

ⓑ. 2ry PE → Acquired PE after a NL period of good ejaculatory control.

2. Acc. to the Frequency:

ⓐ. Selective → with specific partner or sexual act

ⓑ occasional → occuring once in a while (d.t) Fatigue or mental stress.

ⓒ persistent or recurrent → in > 50% of Intercourses.

3. Acc. to the Type:

. True: real loss of ejaculatory control

. False: The ejac. is NL in Time but There is ♀ ↗ orgasmic dysf. or ↘ Sexual Ignorance. ⇐ female Anorgasmia

4. Severity

. mild: IELT = 30 - 60 seconds

. Mod: " 15-30 seconds of Vaginal penet.

. Sever: after before Sexual activity or ē in < 15 sec.

Causes of PE

(Most cases are psychogenic)

1ry PE (Psychogenic)

(٢ نظريات)

1. Male conditioning by social pressure..
2. Lack of Ejaculatory Control Techniques
3. Psychodynamic theories:
   - anxiety about sex → (sexual assault)
   - psychoanalytic theory (sadism) [illegible]; conflict parent-child
4. ~~Performance Anxiety~~

NB1 (اكثر نظرية): Male conditioning by social pressure to reach climax in a short period: متكررة في هذه الحالات

- Starting masturbation in early teenaging ē lack of motive to prolong the sexual activity (اكثر)
- Making love under conditions of fear (في البيت أو في عربية وخايف حد يفتشه) → (Back-seat car sex)
- Encouragement of rapid ejaculation from a prostitute (أتعود على القذف السريع [illegible])

2ry PE (Acquired)

Psychogenic (common)

Anxiety of performance. (ED → PE) [illegible]

Organic (less common)

1. DM
2. BPH
3. Prostatitis [illegible]
4. Urethritis
5. Neuropathy
6. Pelvic fracture & operation
7. Hypersensitivity & excitability of dorsal n. & glans.
8. Genetic
9. Role of: Hyperthyroidism
   - Test ↑
   - PRL ↓
   - TSH ↑

Prostatitis: EAU Guidelines for ejac. dysf. recognize that PE is strictly organic [prostatitis: 5-64%]

[illegible] PR [illegible] 40 >

incid: 1/3 Ass. (ED) ⇅ (PE)

NB2: ED may (excite) performance anxiety → PE. PE may (excite) performance anxiety → ED

X

NB (B) lack of ejaculatory control techniques : (Controversy.)

عبارة عن Techniques بيمارسها بعض الأشخاص
بتلقائية وتؤدى الى تأخير القذف زى :

- thought distraction "تشتيت"
- Pelvic Floor ms contraction
- alternating of depth & speed of vaginal thrusting.

(C) psychodynamic theories: (احفظ ١ و ٢ فقط ...)

1. Anxiety about sex d.t.:
   - Family incest (زنا محارم)
   - Sexual assault
   - Conflict c one or both parents (أنانية)

2. unresolved & Excessive narcissism: during infancy → Exaggerated importance being placed on penis & ! associated pleasure of urination.

3. psychoanalytic theory: deep sadistic wishes of some men towards the women that make the man punish here by depriving here from pleasure or by soiling her. (اهانة بتريش)

(D) Performance Anxiety : (Fear of failure to satisfy the ♀).

مش هيعرفيها

A. ED : if the ♂ is afraid that his Erection will not last d.t < previous ED or Imagined failure → ppt of → PE. the patient may have used the phrase " Honey; You Excited me So much I just couldn't hold back "

بيلزم بسبب خ الزوجة انها جميلة انا خ قوية عشان كده مش عرفت تحكمت بالقذف
طلا يوصل للقذف طبيعي هايرث ارتخاء وبالتالي هو يترك الـ ED غير مرتبط (PE)

B. ♀ may belittled him with comments as " You must not be much of a man since you can't stay hard until I'm satisfied) → performance anxiety & → PE. [in addition she may have difficulty in achieving orgasm through intercourse & may require clitoral stim. (... لأنه مش فيهتة ده) → always failure of her coital satisf.

انت مش راجل لانك مش قادر تتحكم في القذف لحد ما كيرت لي أنا

Complications of P.E

1. in males → 2ry ED
2. in females → Orgasmic dysf. (or) impaired sexual interest
3. Deterioration of sexual or marital relations

PE بيجعل المريض غير قادر على التحكم في القذف ← فتدريجياً ينسحب
من العلاقة الجنسية ويتجنبها فتعتقد الزوجة انها لم تعد مثيرة
جنسياً فيحدث إستياء لكلا من الطرفين وفقدان للسعادة الزوجية

DD

1. Female Anorgasmia:
   - average time for ♀ Climax is ≃ 12 – 25 min
   - So in anorgasmia or severe delayed orgasm of ♀ → Nearly all men have PE.
2. Drug induced PE: resolved by Drug stop.
3. Prosemon or pre Come

للكابلر فقط (HL) . **Biochemical Factors in PE:**

من خلال الدراسات اتضح ان :

1. High T. level < Total & Free seen in PE pt. > NL
2. ↓↓ Semen level of PAP & α-glucosidase in PE pt > NL
   (s. Epidid. & Prostate dysf. may → PE).
3. Hyperprolactinemia : may →
   - PE
   - ED
   - Anxiety
   - Metabolic Synd.

Men c̄ lowest quartile level of PRL.

Treatment of PE

1. Reassurance of The Couple
2. Relief of performance anxiety
3. Pharmacotherapy:
   - oral therapy
     - Antidepressants < TCA / SSRI-s
     - Tramadol
     - Viagra.
   - Topical " "
     - α-Blockers
4. Sex Therapy
5. Other lines: ICI, condom, etc..

---

[1] Reassurance of Couples:

- لابد من حضور الزوجة في جلسات العلاج
- تصحيح أى أخطاء في مفاهيم العلاقة الجنسية
- بنفهمهم ان الافلام الجنسية غير حقيقة وانه
اتشهد (٣٠ دقيقة) هي يتم تصويرها على مدار (٢-٣ أيام)

Misconception of sexual relation

[2] Relief of Performance Anxiety

لو فرضنا أن PE بيحدث
في

- Sexual intercourse
(بداية ادخال القضيب)
هانوقف الادخال الى أن يحدث علاج
لل PE ويخلى الزوج في هذه الفترة
يمارس اشكال أخرى من العلاقة الجنسية
لـ.... الزوجة
  - stop vaginal penetration and do other sexual activities
  - * oral ✓
  - * Manual ✓
- Foreplay or Early Sexual Excitment
  → Serious problem & may indicate that 1ry PE.
  →
  1. ttt of PE
  2. Consultation of Mental Health Care professional.

[3] Pharmacotherapy:

(خرائط) . TCA / SSRIs

. Mechanism of Action:

A **In PE** antidepressant < TCA / SSRIs

(خريطة) . TCA → unknown mechanism but ± d.t:

1. -- autonomic process involved in ejac. & Erection (Antiadrenergic & cholinergic) → sympatholytic

Seretonin → inhibit sexual function

2. ↓ Psychological Arousal
3. Anxiolytic effect
4. -- Reuptake of < Serotonin → ↑ level / Dopamine → ↑ level.

. SSRIs → selectively -- Serotonine reuptake → ↑ Serotonin level → -- SD & ↓ Erection → -- Ejac.

Very little effect on reuptake of Norep. & Dop.

B Analgesics: TCA (See PHN)

C Antiinflammatory & Immunomodulators: down regulate . IL < 6 / 10, . TNF α, . IFN γ

Sexual / non sexual > S.E

1. TCA: anticholinergic SE (Anticholinergic manifs) (أعراض ...)
   - drowsiness
   - dizziness
   - dry mouth, yawning
   - Blurred Vision
   - Tremors
   - Rash
   - Sexual problems
   - W.t gain or loss.

2. SSRIs (غالباً تختفي خلال أسابيع): Yawning
   - . Nusea
   - . diarrhea
   - . Agitation (تهيج)
   - . Headache
   - . (Sexual:)
     - ↓ libido
     - . Anorgasmia
     - . ED
   - . Serotonin Synd ← لو انتبه قراءة
   - . Tachyphylaxis: بعد ٦-١٢ شهر

NB: **Serotonine Synd** = Post SSRIs Sexual dysfunction = SSRIs discontinuat^n^ synd.

- def: sexual (sexual & non.) disorders occuring following discontinuat^n^ of SSRIs. That may lasts for ms - ys.

Fluxetine → يعمل SD

Manifs:

- Non sexual:
  - dizziness
  - Nusea
  - Vomiting
  - anxiety
  - Headache
  - lethargy
  - Agitat^n^.
  - insomnia.
  - Suicide.
- Sexual:
  - ↓ libido
  - Anorgasmia
  - ED
  - PE
  - Priapism
  - ↓ semen vol
  - Genital Anaesthesia

Commonest: Paroxetin
- either ↓ dose or
- stop.

NB: Sexual Function & Antidepressants: (imp) مهم

(SSRIs) → Commonest group affecting The sexual Function (↓ SD / Anorgasmia, ED)

without ED:

- Trazodone (Small dose) (Trittico)
- Related To Trazodone: Nefazodone (Deprysen)
- Mirtazepine (NSRI)
- Buspiron (Buspar)
- Bupropion (wellbutrin)

↓

(بيه بلاوي) → الـ ٥ دول مش بيعملوا (↓ SD & ED)

- Drugs That ↓SD (sexual desire) or causing ED e.g. TCA & SSRIs → استعمل معاهم
  - Apomorphine
  - Yohimbine

* Doses
  - Imipramine (Tofranil) → 25 - 50 mg /d. → ٣-٦ ساعات قبل الجماع
  - Clomipramine (Anafranil) → 25-50 mg /d
  - Sertraline (Lustral) → 25-100 mg /d
  - Paroxetine (Seroxat) → 20-40 mg /d
  - Fluoxetine (Prozac) → 20-40 mg /d
  - Citalopram (Cipram) → 20 mg /d.
  - Dapoxetine (الاحدث) (الاقوى) (لاكن استخداماته اوربيا) (30-60 mg/d)

SSRI

طريقة: ٢٠ مجم يوميا لمدة اسبوع ثم ٤٠ م يوميا.

كل هذه الانواع ممكن استخدامها بـ طريقتين

- (أقل ناعلية) ① On demand → قبل الجماع
- ② Continuous → لفترة ٦ اسابيع

فاعليته ٥-٢٠٪ ، المكسب ٥٠-٢٢٪

ولو مش في نتيجه تزاد الفترة الى ان يحدث نتيجة ثم on demand.

يعنى ممكن نبدء باستخدامه قبل العلاقة الجنسية (On demand)

ولو مش جايب نتيجة نستعمله (Continuous)

(شفوي) **Dapoxetine:** is the only FDA approved drug for PE (Phase III)

(شفوي) Don't Forget To treat ED as it may improve PE. How?? If PE is 2ry to ED.

- ترتيب الانواع على حسب القوة: (مهم)

Joy Box الجبارى → Paroxetine "الاقوى"
- Clomipramine
- Sertraline
- Fluoxetine
- Citalopram

- كل الانواع لابد من سحبها تدريجيا على مدى ٤ اسابيع ماعدا (Fluoxetine) علشان تتجنب (withdrawal sympts.)

NB

- TCA effective But S.E
  - Anticholinergic: marked
  - Sexual: less marked
- SSRIs: Effective But ↓ marked ↓ of sexual funct. → So Combine it with Aphrodisiacs.

* Viagra & PE

(HL)

Can Treat PE through 2 Mech.

(Indirect) → ① improving ED → improving anxiety of Perform.
→ improve PE

(Direct) → ②
- ↑ NO & ↓ Symp. tone
- Relaxation of ms of Vas, Epid. & SV
  → Antagonize Symp.
- ↓ Erectile threshold
- downregulation of Receptors involved in Somatosensory latency time.

Direct → Sympatholytic effect (Sm relaxation) ; ↓ Erectile threshold.

Viagra + SSRIs → More S.E.

* Topical Therapy (local Anaesthetics)

- lidocaine 2.5%
- prilocaine 2.5%
- Korean SS Cream (Herbal)

what are disadv. ?? → ↓ pleasure in ♂ ♀ (d.t anaesth.) ; CD.

4 * Sex Therapy → د/ حامد عبد الله (177, 180)

(مهم جداً جداً)

5) Others

- ICI → Help Conventional PE ?? — لا يحصل قذف لا يحدث انتصاب بسبب العلاج ليس
- Condom → ↓ penile sensitivity → ↓ PE.
- Masturbation — ليحصل استمناء قبل الجماع بساعة أو ساعتين فالمرة الثانية يتأخر القذف إلى ...

B. Tramadol

. Mech. 1. Centrally acting opoid analgesic
2. -- Reuptake of ← NE, Serotonin, GABA

. Dose ... 50 mg PO 1/2 hrs before intercourse
. don't exceed 100 mg in 6 hr &
400 mg 12/24 hr.

. Efficacy : effective
. S.E : Addict (So Not used or limited use in PE).

C. Viagra in PE : May improve PE either By

Indirectly
by improving ED → relief of performance anxiety → improved PE.

Directly ??
1. Sympathitylic effect
2. down regulation of Rs involved in somatosensory latency time: ↓ sensitivity of nerves

D. α-blockers (α_1--) : Trazosin .5 mg, 1d) → 50% efficacy.

• Topical therapy
(local anaesthetics)

. e.g. lidocaine 2.5%, prolicaine 2.5% & Korean 5S Cream (Herbal)

. disadv. ← CD
↓ Pleasure in ♂ ♀

د/ حامد عبدالله (مهم جداً)

[4] Sex Therapy

[5] Other lines

- ICI → بيساعده على الاحتفاظ بالانتصاب بعد القذف فيساعده على ممارسة ثانية وبالتالي يبطؤ شوية
- Condom → ↓ penile sensitivity
- Masturbat: → بيعمله قبل الجماع بساعة او ساعتين فبالتالي بيأخر Ejac.
  one or 2 hrs befor sexual intercourse

(HL) 186 يراجع مع د/ ابو ... [زيادات بسيطة]

→ antidepressant ē out ED

Buspar - trittico

Amantadin (antiviral) ↑ desire

Asthenospermia (definition...)

AET

Proven Causes (7)

① Faulty Collection: "physiological polyasthenia"
- Long Abstinence period
- Spermicidal Container
- use of saliva, soap, any Lubricant
- exposure to extremes of heat
- prolonged incubat° in Seminal plasma.

So: Repeated analysis under Carefully Controlled Conditions should be done.

② infection:
- E.Coli ⇒ ↓ Motility
- Ureaplasma can adhere to sperm → ↓ Motility

3 MOD: Chlamydia

So eradicat° of DoxyCycline may be ass. ↑ pregnancy rate.

③ Anti Sperm Abs:

Abs may induce Membrane defects → affects the Intra Cellular Ca^+ & ATP → ↓ Motility.

So: Asthenospermia in pt ē
- Genital infect° or obst. or Trauma ...etc → test for auto Abs.

Test: Immunological infert.

Un proved (Possible) Causes (5)

① Varicocele

② Epididymal dysfunct°

③ Deficient factors in seminal plasma necessary for Motility. (Na+ bicarbonate & PG)

④ presence of inhibitory factors in sperms & Seminal plasma.

⑤ functional defects of the axoneme:
- defective Sperm memb.
- " ATP product°
- "adenyl cyclase": ↓ AC activity
- ↓ Calmodulin (Major Ca+ binding Pln)
- protein carboxy Methylase deficiency: enzyme in tail Need for motility.

Clinical tips:

presence of Symptoms Suggestive UTI or genital inf → localizat° Culture should be done and appropriate antibiotic therapy should be given.

empirical antibiotic in ē absence of documented inf. → no effect on Motility.

Structural

(1) axonemal defects: — Immotile Cilia Synd (IVY Ciliary dyskinesia)
— 9+0 synd. (V)

A Immotile Cilia Synd:

def AR disorder ; 1:30.000 (d.t) defect in (2) genes:
- DNAH & DNAH5] → encodes proteins of dynein arms & other links of microtubules (Cilia) → Infertility + Triad of:
  - Bronchiectasis
  - Chr. Sinusitis.

Immotile Cilia + Globozoosp. = Sterilizing sperm defect.

NB Immotile Cili Synd: 50% oss. é Situs Inversus → Kartagener

defects in Axoneme of Microtubules (Cilia = Sperm tail) ±:

1. lost dynein arm (s)
2. lost Central Single microtubule (9+0 synd)
3. lost Nexins or radial spokes.

- Dx: NL Semen < Count Viability but 100% Immotility
- Tt → ICSI

B 9+0 Synd.: Synd. é structural defect of tail., there is loss of Centrif pair of Microtubules → Immotility.

NB Necrozoospermia: (Total) Vitality < 75%

- Def → Spermatozoa é No Viability

usually seen in:
- Chr. prostatitis
- unilat ejaculatory duct Obst (ass. é ↓ Semen Vol.)

(Viability % Sperm < 75%)

- Indications to do Vitality Tests:
  - if Grade D (Immotility) > 40%.
  - Structural

Tests < NIE stain / Host

CAN. é Hypospermia

Gru Cellular

- Types of Asthenospermia:
  - Isolated Astheno:
  - Oligo Asthenozoosp:
    - Most patients ē asthenoabo. have associated defects in sperm Product & Morphology
    - Sperm ē poor Movement often demonstrate Morphology abnormalities.
    - In cases of oligo Asthenos, the diagnostic work up should be identical to the work up of oligozoo.

- OAT
- Diagnosis of isolated Asthenosp.

△ History
- Pulm. dis
- Risk factors of antisperm Abs
- Genital inf.

② Clinical ex.
- Varicocele
- epid. abnormalities
- Urethral disch.
- EPS & PR

③ Inv.
- Repeat analysis (* Faulty Collect)
- EPS Culture
- Antisperm Abs

① Markedly disturbed Motility in the presence of otherwise almost normal sperm parameters → (9+0 synd.)

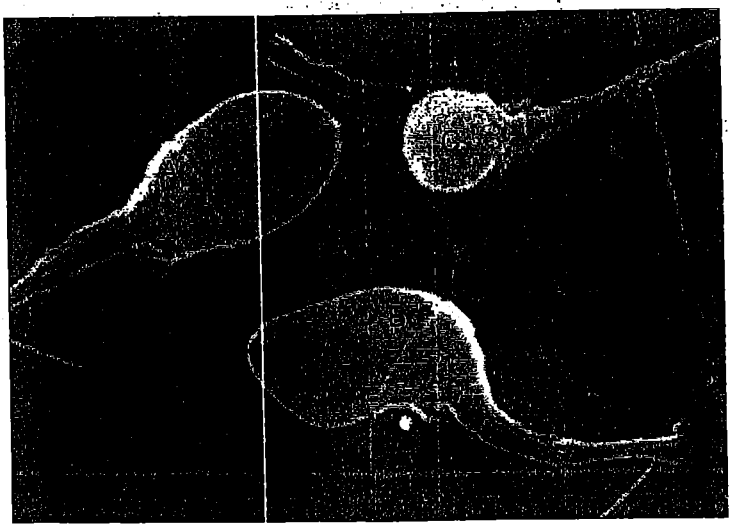
② if Motility ≤ 10% → do EIM.

Globozoospermia (Round headed syndrome)

- **Def.** Severe form of teratozoospermia in ♂ the sperm head appears rounded d.t absence or defect of Acrosome.
- **Etiology:** Homozygous Mulot^ in SPATA 16 (spermatogenesis specific gene)
- **Types of Globozoospermia**

• Complete (total) (Type I).	Partial (Type II)
• Complete absence of Acrosome • No Natural Concept^ by ICSI	• Hyperplastic Acrosome • ± Conceive Naturally.

- Globozoospermia + Immotile Cilia Synd → Called: ??
- **Ht:** ICSI (However results are poor d.t disturbed Sperm-associated oocyte activat^ Factor



Sperm morphology is related to the fertilising capacity by in vitro fertilisation. (A=normal sperm head; B=abnormal head; C=globozoospermia--a rare syndrome in which all sperm heads lack acrosome caps and cannot fertilise)

Cancer & Infertility

Mechanism of Infertility d.t Neoplasm

Cancer associated Conditions

- Cryptorchidism: 2.8% ass. i-GCIS
- Genetic: evidence of chromosomal anomalies cancer pts.

• Infertility 2ry To the Cancer itself:

① Destructive effect of Tm → Severe impairment of spermatogenesis

② Immunological effect: Tm → disturbed Blood Testis barrier → Anti-sperm antibodies

③ Endocrinal Effect: in Leydig & Sertoli Tm → Estrogen level → infertility.

④ Psychological & physical: Stress → infertility

⑤ obstructive effect: Epididymal obst. "by" Neoplasm.

• Infertility 2ry to Cancer therapy:

① RPLND → Sympathetic denervation → [Failed emission, RGE] lack of Antegrade ejaculation

② Radiation & chemotherapy: Causes Azoo or Severe oligo (usually 2-3 months after tt).

→ is risk

So Must do Cryopreservation before therapy

destructive
obstructive
Immunological
Endocrinological
Psychological